MHC-DX50/RG80

SERVICE MANUAL

Ver 1.0 2001. 02

Canadian Model
MHC-RG80
Australian Model
E Model
MHC-DX50

- MHC-DX50/RG80 are composed of following models.
  As for the service manual, it is issued for each component model, then, please refer to them.

COMPONENT MODEL NAME

	MHC-DX50	MHC-RG80
COMPACT DISC DECK RECEIVER SYSTEM	HCD-DX50	HCD-RG80
FRONT SPEAKER SYSTEM	SS-DX50	SS-DX50
REAR SPEAKER SYSTEM		SS-RS50

• Abbreviation
E2 : 120 V AC Area in E model
E51 : Chilean and peruvian model
SP : Singapore model
MX : Mexican model
AUS : Australian model
KR : Korea model

SPECIFICATIONS

General

Power requirements
Canadian models: 120 V AC, 60 Hz
Australian models: 230 - 240 V AC, 50/60 Hz
Mexican models: 120 V AC, 60 Hz
Thailand models: 220 V AC, 50/60 Hz
Other models: 120 V, 220 V or 230 - 240 V AC, 50/60 Hz
Adjustable with voltage selector

Power consumption
HCD-DX50 220 watts
HCD-RG80 300 VA

Dimensions (w/h/d) Approx. 280 x 360 x 425 mm

Mass : Approx. 10.5 kg

Design and specifications are subject to change without notice.

PARTS LIST

Part No.	Description	Remark
	ACCESSORIES & PACKING MATERIALS **********	
1-476-503-11	REMOTE COMNDUDER (RM-SR210)	
1-501-374-11	ANTENNA, LOOP	
1-501-659-71	ANTENNA, (FM)	
4-210-254-41	CUSHION (FOOT)	
4-223-953-01	COVER, BATTERY (FOR RM-SR210)	
4-232-650-11	INSTRUCTION MANUAL (DX50 : AUS, E2, E51, MX,SP/RG80)	(ENGLISH)
4-232-650-21	INSTRUCTION MANUAL (DX50 : E2, SP/RG80)(FRENCH)	
4-232-650-31	INSTRUCTION MANUAL (DX50 : E2, E51, MX, SP)(SPANISH)	
4-232-650-41	INSTRUCTION MANUAL (DX50 : SP)(CHINESE)	
4-232-650-71	INSTRUCTION MANUAL (DX50 : KR)(KOREAN)	

MINI Hi-Fi COMPONENT SYSTEM

9-929-588-11
2001B1600-1
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Sony Corporation
Audio Entertainment Group
General Engineering Dept.

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REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2001.02	New

HCD-DX50/RG80

SERVICE MANUAL

Ver 1.1 2001. 12

Photo : HCD-DX50

Canadian Model
HCD-RG80
Australian Model
E Model
HCD-DX50

- HCD-DX50/RG80 are the tuner, deck, CD and amplifier section in MHC-DX50/RG80.

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CDM58E-30BD60
	Base Unit Name	BU-30BD60
	Optical Pick-up Name	A-MAX.3
Tape deck Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	TCM-230PWR41C

SPECIFICATIONS

Amplifier section

HCD-DX50

The following measured at AC 120, 220, 240V 50/60 Hz

DIN power output (rated) 100 + 100 watts (6 ohms at 1 kHz, DIN)

Continuous RMS power output (reference) 140 + 140 watts (6 ohms at 1 kHz, 10% THD)

HCD-RG80

Continuous RMS power output (reference) 140 + 140 watts (6 ohms at 1 kHz, 10% THD)

Total harmonic distortion less than 0.07% (6 ohms at 1 kHz, 50 W)

Inputs

MD/VIDEO (AUDIO) IN: (phono jacks) voltage 450 mV/250 mV, impedance 47 kilohms

MIC: (phone jack) sensitivity 1 mV, impedance 10 kilohms

Outputs

PHONES: (stereo mini jack) accepts headphones of 8 ohms or more

FRONT SPEAKER: accepts impedance of 6 to 16 ohms

SURROUND SPEAKER: (HCD-RG80 only) accepts impedance of 24 ohms or more

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ=780nm)
Laser Output	Max. 44.6 µW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Frequency response	2 Hz – 20 kHz (±0.5 dB)
Wave length	780 – 790 nm
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB

CD OPTICAL DIGITAL OUT (Square optical connector jack, rear panel)

Wave length	660 nm
Output Level	–18 dBm

— Continued on next page —

MINI HI-FI COMPONENT SYSTEM

9-929-589-12
2001L1600-1
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Home Audio Company
Published by Sony Engineering Corporation

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Tape player section

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF*)	40 – 13,000 Hz (±3 dB), using Sony TYPE I cassette 40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette*

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz
Antenna	FM lead antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
Latin American and Canadian models:	530 – 1,710 kHz (with the interval set at 10 kHz) 531 – 1,710 kHz (with the interval set at 9 kHz)
Middle Eastern models:	531 – 1,602 kHz (with the interval set at 9 kHz)
Other models:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
Canadian models:	120 V AC, 60 Hz
Australian models:	230 - 240 V AC, 50/60 Hz
Mexican models:	120 V AC, 60 Hz
Thailand models:	220 V AC, 50/60 Hz
Other models:	120 V, 220 V or 230 - 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	
HCD-DX50	220 watts
HCD-RG80	300 VA
Dimensions (w/h/d)	Approx. 280 x 360 x 425 mm
Mass :	Approx. 10.5 kg

Design and specifications are subject to change without notice.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

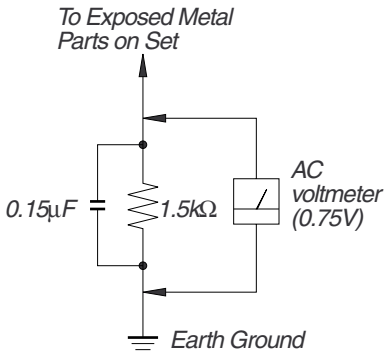
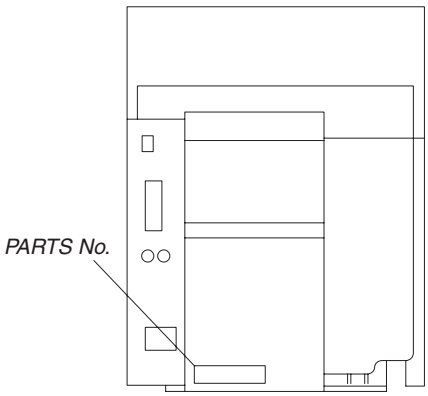


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION

— BACK PANEL —



MODEL	PARTS No.
DX50 : E, SP, AR models	4-231-580-0□
DX50 : KR, MX, AUS/RG80 models	4-231-580-2□

- Abbreviation
  AUS : Australian model
  SP : Singapore model
  KR : Korea model
  MX : Mexican model
  AR : Argentina model

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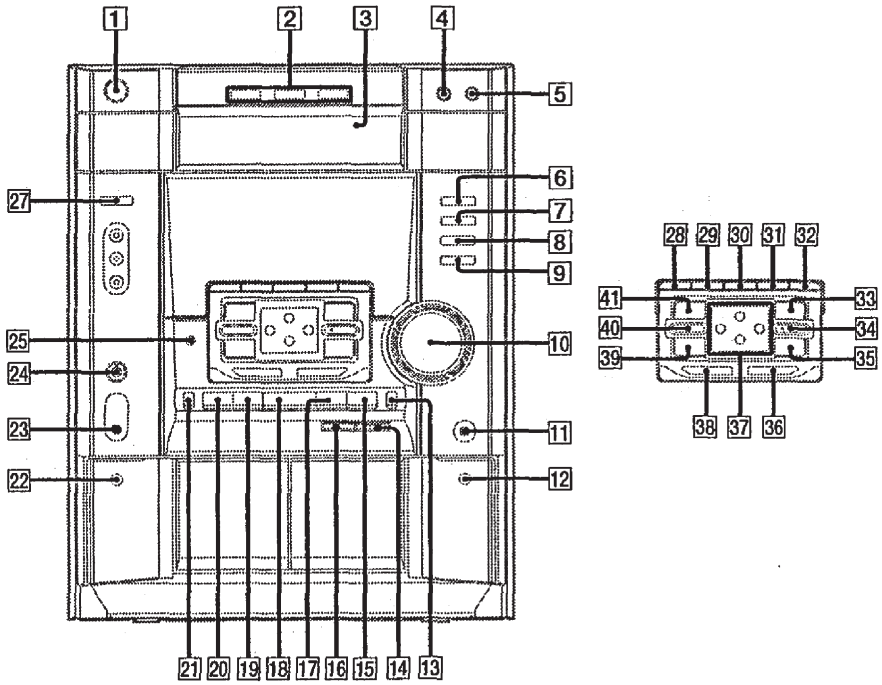
SECTION 1
GENERAL

This section is extracted from instruction manual.

Parts Identification

Main unit

The items are arranged in alphabetical order. Refer to the pages indicated in parentheses ( ) for details.



CD 6 (9, 10, 15, 16)
CD SYNC HI-DUB 16 (15, 16)

DECK A ⏏ 22 (14~16)
DECK B ⏏ 12 (15, 16)
DIRECTION 30 (14~16)
DISC 1~3 2 (9)
DISC SKIP/EX-CHANGE 4 (9)
Disc tray 3 (9)
DISPLAY 28 (8, 11, 13)

EDIT 30 (16)
ENTER 34 (10, 12, 16, 17, 19, 21, 22, 26, 27)
EFFECT ON/OFF 40 (18, 20)

FM MODE 31 (13, 27)

GAME 27 (23)
GAME EQ 39 (18~23)
GROOVE 38 (18)

KARAOKE PON 25 (20)
(Except MHC-RG80)

MD (VIDEO) 9 (23)
MIC 23 (20)
(Except MHC-RG80)
MIC LEVEL 24 (20)
(Except MHC-RG80)
MOVIE EQ 33 (18, 23)
MUSIC EQ 41 (18, 23)

P FILE 35 (19)
PHONES jack 11 (20)
PLAY MODE 32 (9, 10)

REC PAUSE/START 14 (15, 16)
REPEAT 31 (9)

SPECTRUM 29 (20)
SURROUND 36 (19)

TAPE A/B 8 (14~16)
TUNER/BAND 7 (12, 13)
TUNER MEMORY 32 (12)

VOLUME control 10
: Adjusts the volume.

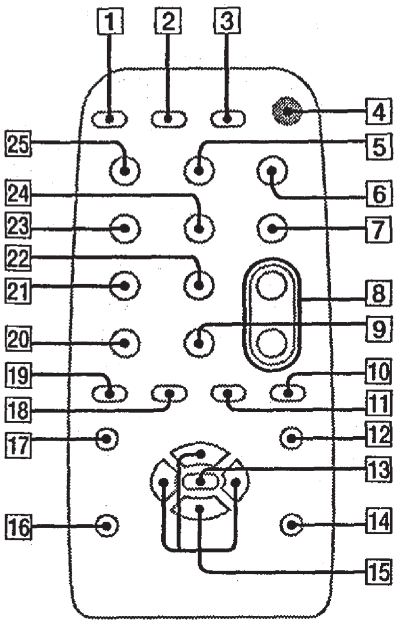
BUTTON DESCRIPTIONS

I/⏻ (power) 1 (7, 8, 13, 23, 27)
⏏ OPEN/CLOSE (disc tray) 5 (9, 10)
■ (stop) 19 (9, 14, 15, 20, 27)
◄►► (play) 18 (9, 10, 14, 15)
►►I (go forward) 15 (9, 10, 12~15)
II (pause) 17 (9, 14)
I◄◄ (go back) 20 (9, 10, 12~15)
◄◄/– (rewind) 21 (9, 12~14)
►►/+ (fast forward) 13 (9, 12~14)
▲/▼/◄/► (cursor) 37 (8, 16, 17, 19, 21, 22)

4

Remote Control

The items are arranged in alphabetical order. Refer to the pages indicated in parentheses ( ) for details.



CD 19 (9, 10, 15, 16)
CLEAR 7 (10)
CLOCK/TIMER SELECT 2 (21, 22)
CLOCK/TIMER SET 3 (8, 17, 22)

D.SKIP 9 (9)

ENTER 13 (10, 12, 16, 17, 19, 21, 22, 26)
EFFECT ON/OFF 14 (18, 20)

GAME 20 (23)

MD (VIDEO) 10 (23)

PRESET EQ 17 (18, 23)
P FILE 16 (19)

SURROUND 12 (19)
SLEEP 1 (21)

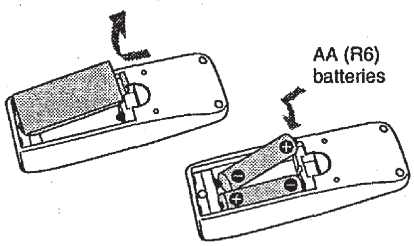
TAPE A/B 11 (14~16)
TUNER/BAND 18 (12, 13)

VOL +/– 8
: Adjusts the volume.

BUTTON DESCRIPTIONS

I/⏻ (power) 4 (7, 8, 13, 23, 27)
◄►► (play) 25 (9, 10, 14, 15)
II (pause) 5 (9, 14)
■ (stop) 6 (9, 14, 15, 20, 27)
I◄◄ (go back)/PRESET – 23 (9, 10, 12~15)
►►I (go forward)/PRESET + 24 (9, 10, 12~15)
◄◄ (rewind)/TUNING – 21 (9, 12~14)
►► (fast forward)/TUNING + 22 (9, 12~14)
▲/▼/◄/► (cursor) 15 (8, 16, 17, 19, 21, 22)

Inserting the batteries into the remote control



Tip

With normal use, the batteries should last for about six months. When the remote no longer operates the system, replace both batteries with new ones.

Note

If you do not use the remote for a long period of time, remove the batteries to avoid possible damage from battery leakage.

Setting the time

1 Turn on the system.

2 Press CLOCK/TIMER SET on the remote.

When you set the time for the first time, proceed to step 5.

3 Press cursor ▼/▲ repeatedly to select CLOCK SET.

4 Press ENTER.

5 Press cursor ▼/▲ repeatedly to set the hour.

6 Press ENTER.

7 Press cursor ▼/▲ repeatedly to set the minute.

8 Press ENTER.

The clock starts working.

Tip

If you have made a mistake or want to change the time, start over from step 2.

Note

The clock settings are canceled when you disconnect the power cord or if a power failure occurs.

Saving the power in standby mode

Press DISPLAY repeatedly when the power is off.
Each time you press the button, the system switches cyclically as follows:
Demonstration → Clock → Power Saving Mode

Tips

- The I/⏻ indicator lights up even in the Power Saving Mode.
- The timer works in the Power Saving Mode.

Note

You cannot set the time in the Power Saving Mode.

To cancel the Power Saving Mode

Press DISPLAY once to show the demonstration, twice to show the clock display.

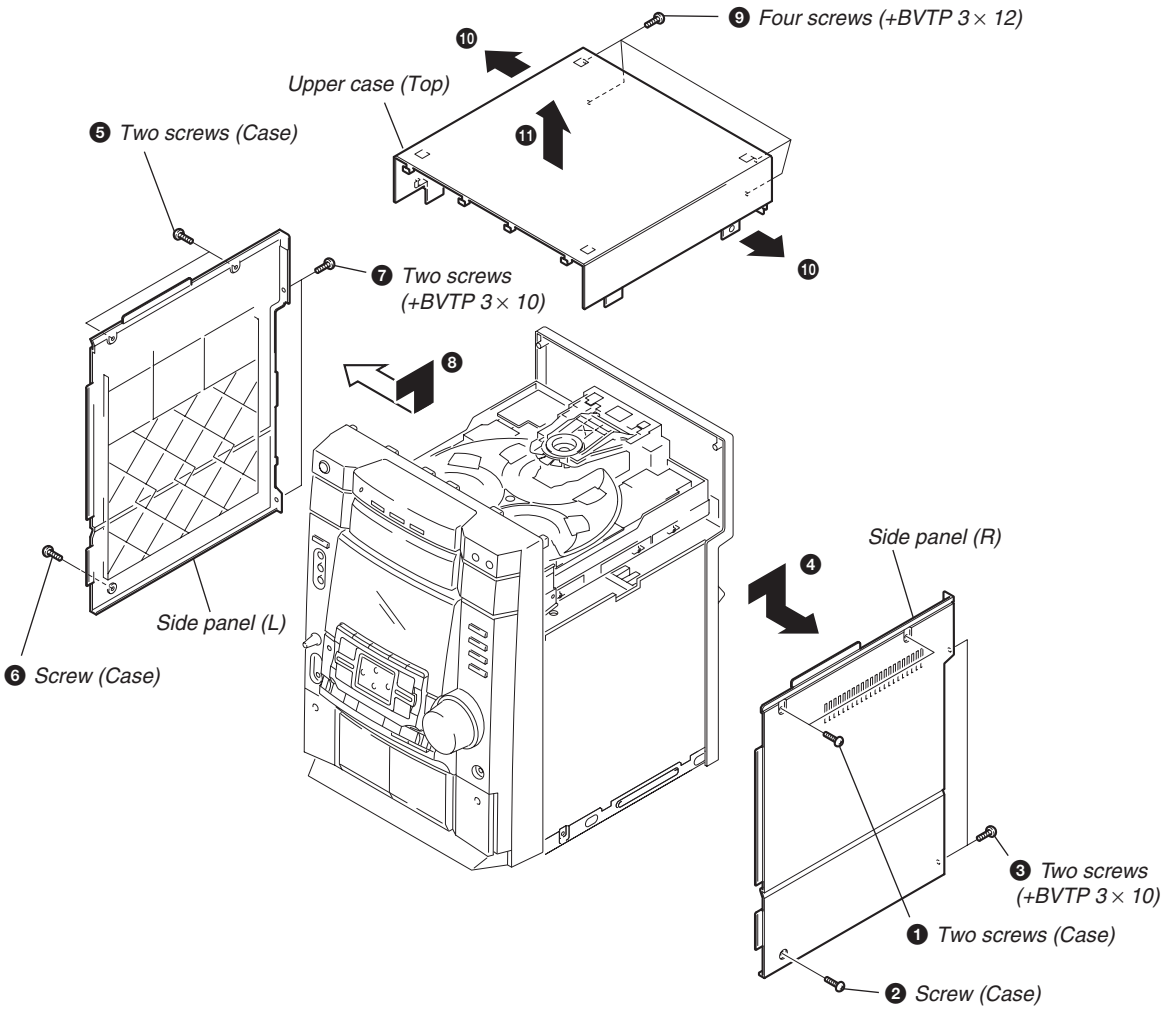
SECTION 2
DISASSEMBLY

• The equipment can be removed using the following procedure.

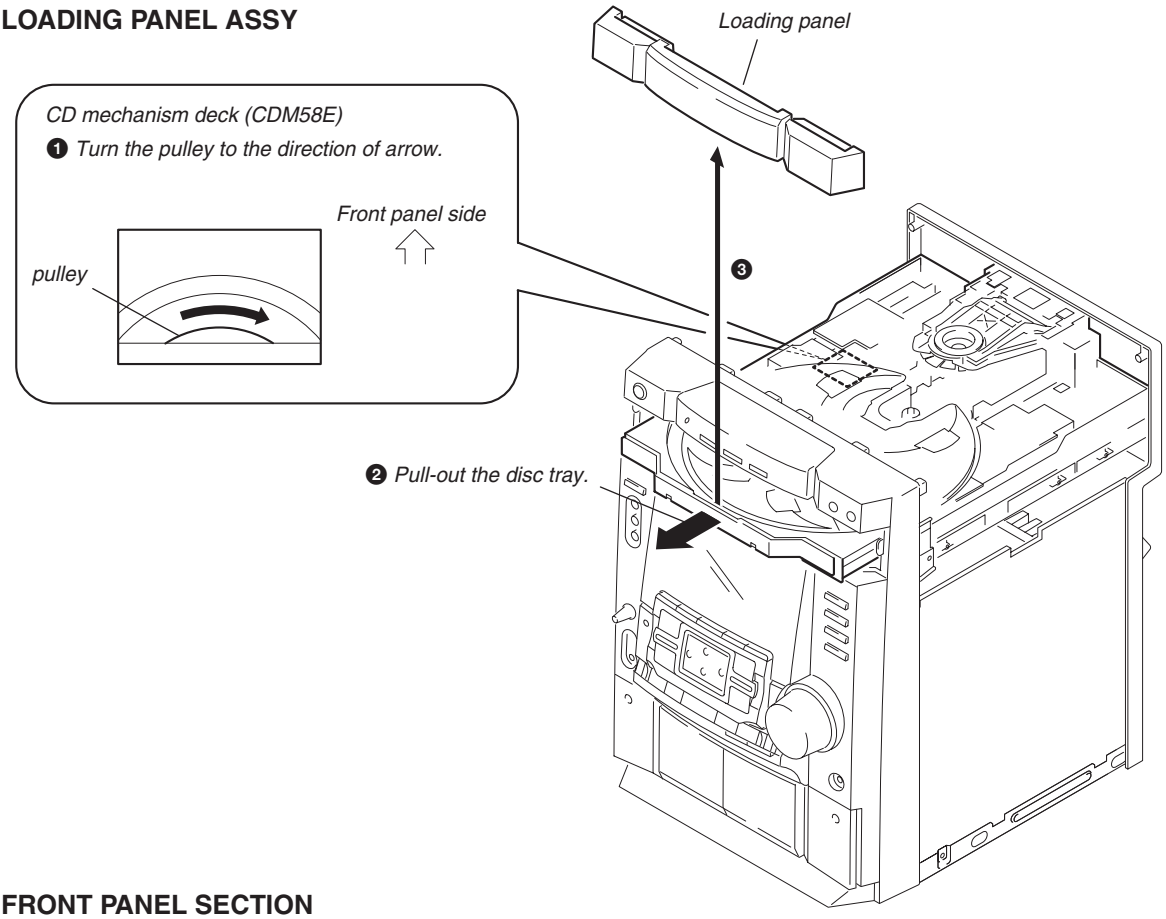
Set → *Upper case (Top)*
↓
Loading panel assy
→ *Front panel section*
→ *Panel board* → *Sub trans board and Main trans board* → *Main board and Power board*
→ *Leaf SW board, Head (A) board and Head (B) board*
→ *Base unit* → *Driver board, Moter board and Address sensor board*

Note : Follow the disassembly procedure in the numerical order given.

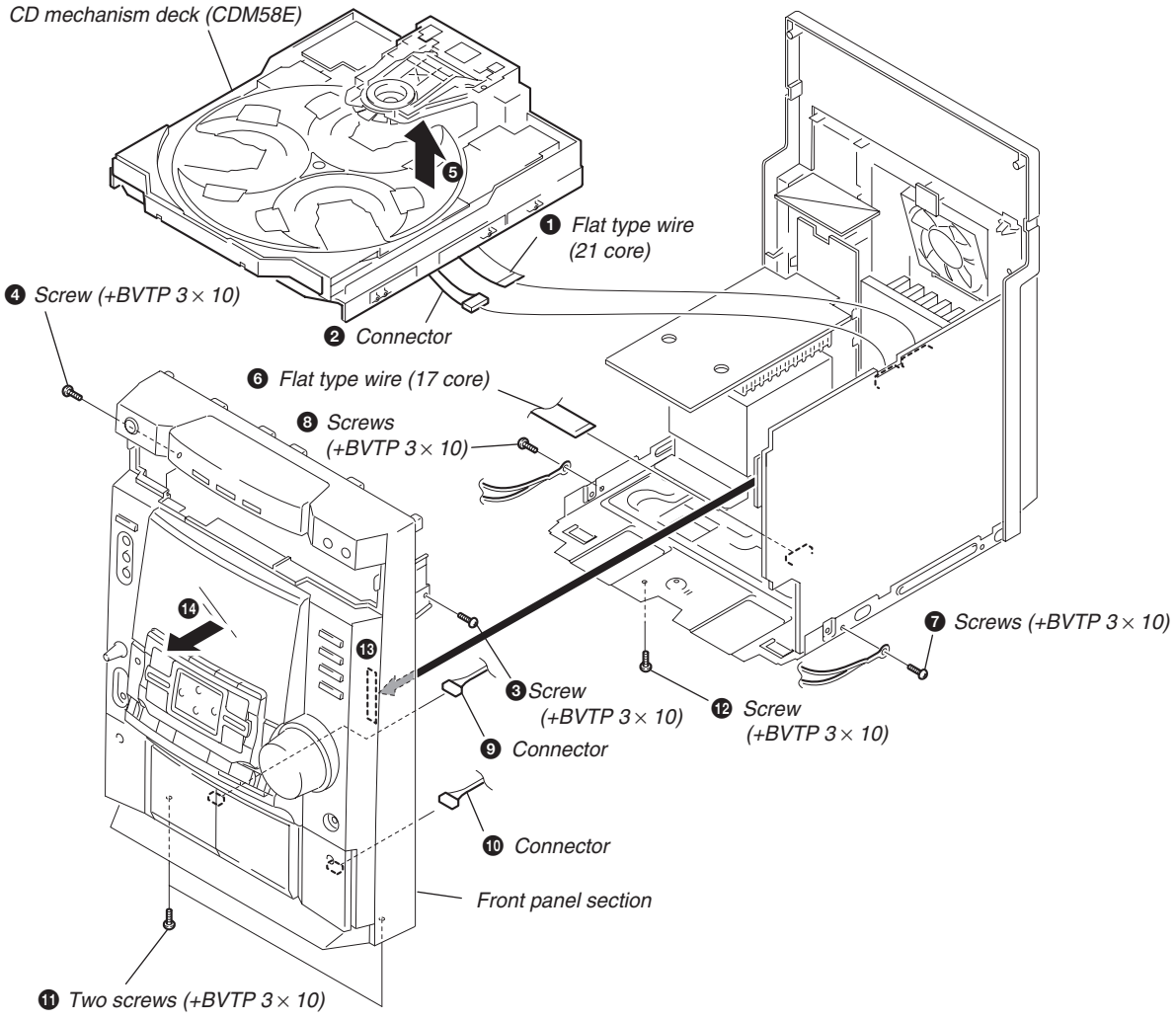
2-1. UPPER CASE (TOP)



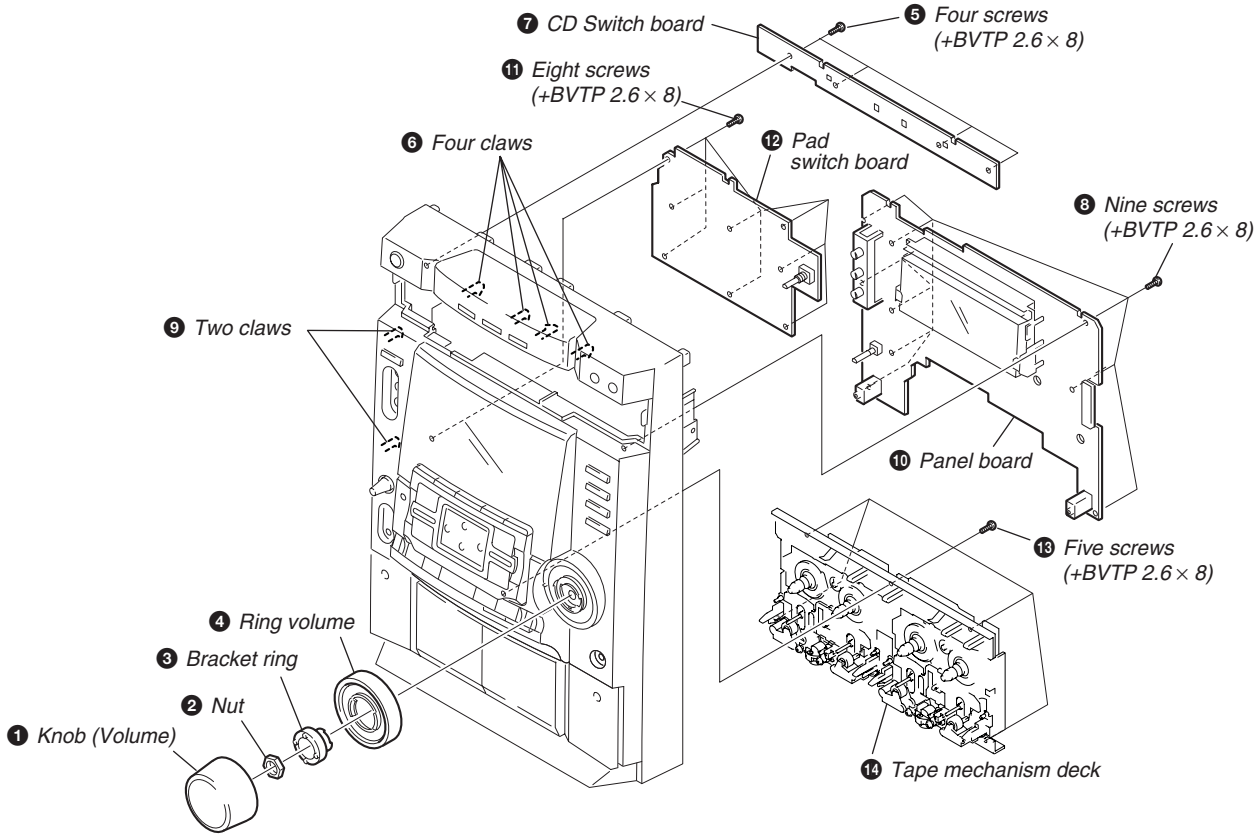
2-2. LOADING PANEL ASSY



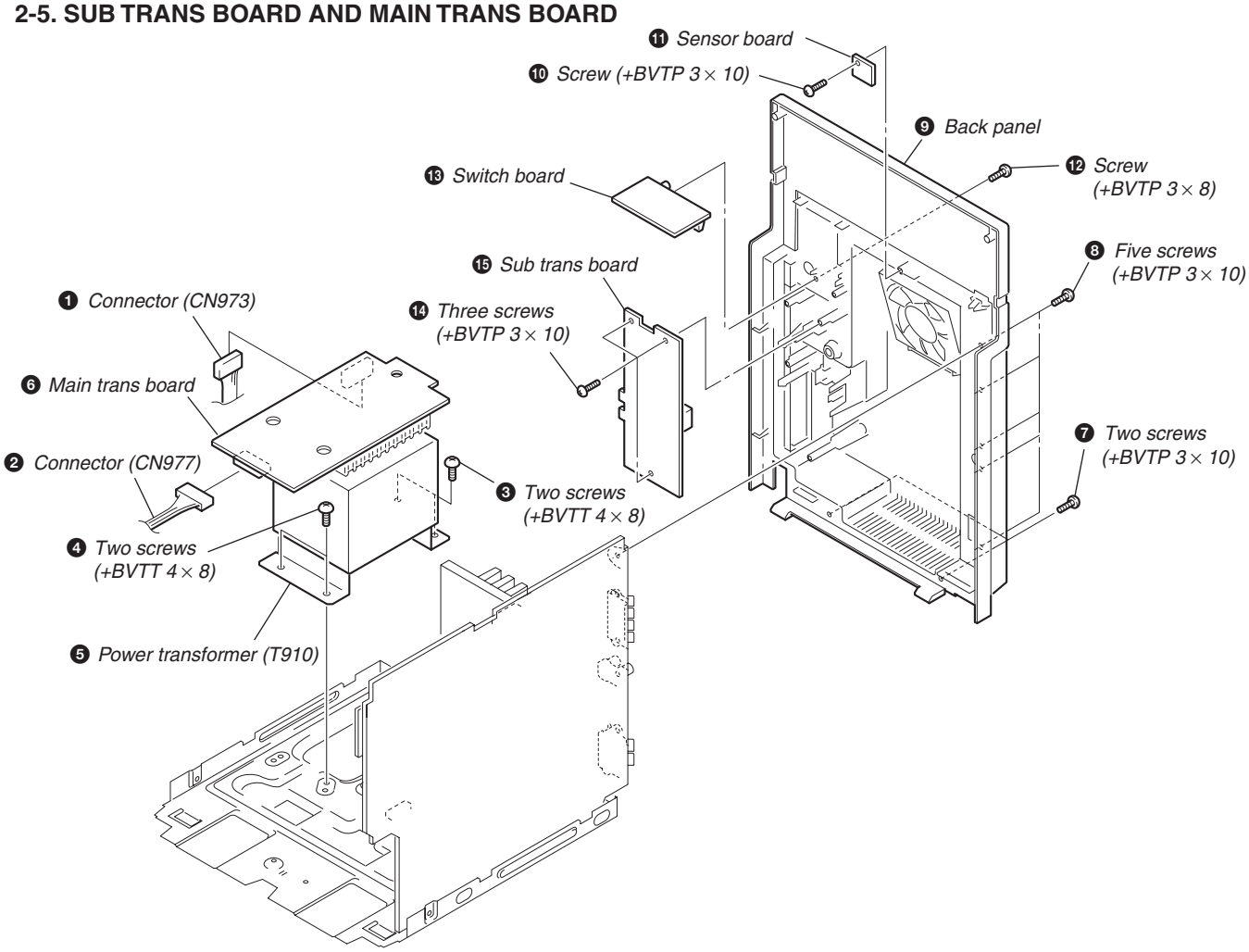
2-3. FRONT PANEL SECTION


CD mechanism deck (CDM58E)
❺
❶ Flat type wire (21 core)
❹ Screw (+BVTP 3 × 10)
❷ Connector
❻ Flat type wire (17 core)
❽ Screws (+BVTP 3 × 10)
❼ Screws (+BVTP 3 × 10)
❹
❸ Screw (+BVTP 3 × 10)
❿ Screw (+BVTP 3 × 10)
❾ Connector
❿ Connector
Front panel section
⓫ Two screws (+BVTP 3 × 10)

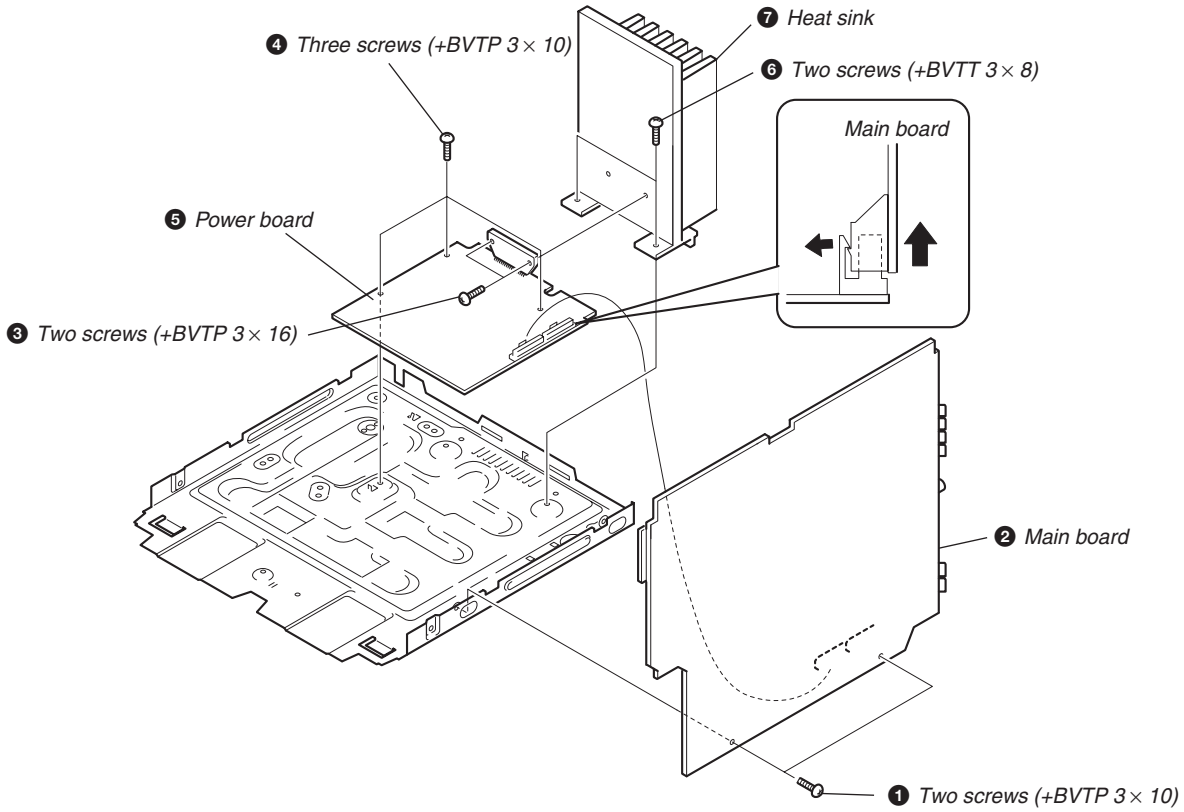
2-4. PANEL BOARD


❼ CD Switch board
❺ Four screws (+BVTP 2.6× 8)
⓫ Eight screws (+BVTP 2.6× 8)
❻ Four claws
⓬ Pad switch board
❽ Nine screws (+BVTP 2.6× 8)
❾ Two claws
❿ Panel board
⓭ Five screws (+BVTP 2.6× 8)
❹ Ring volume
❸ Bracket ring
❷ Nut
❶ Knob (Volume)
⓮ Tape mechanism deck

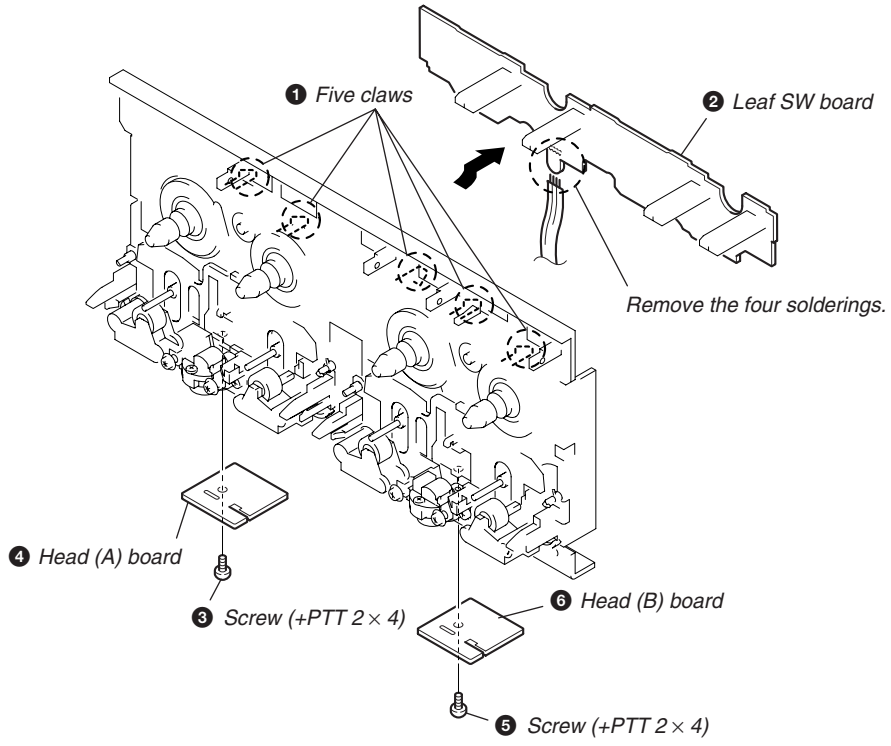
2-5. SUB TRANS BOARD AND MAIN TRANS BOARD


⓫ Sensor board
❿ Screw (+BVTP 3× 10)
❾ Back panel
⓭ Switch board
⓬ Screw (+BVTP 3× 8)
⓯ Sub trans board
❽ Five screws (+BVTP 3× 10)
❶ Connector (CN973)
⓮ Three screws (+BVTP 3× 10)
❻ Main trans board
❼ Two screws (+BVTP 3× 10)
❷ Connector (CN977)
❸ Two screws (+BVTT 4× 8)
❹ Two screws (+BVTT 4× 8)
❺ Power transformer (T910)

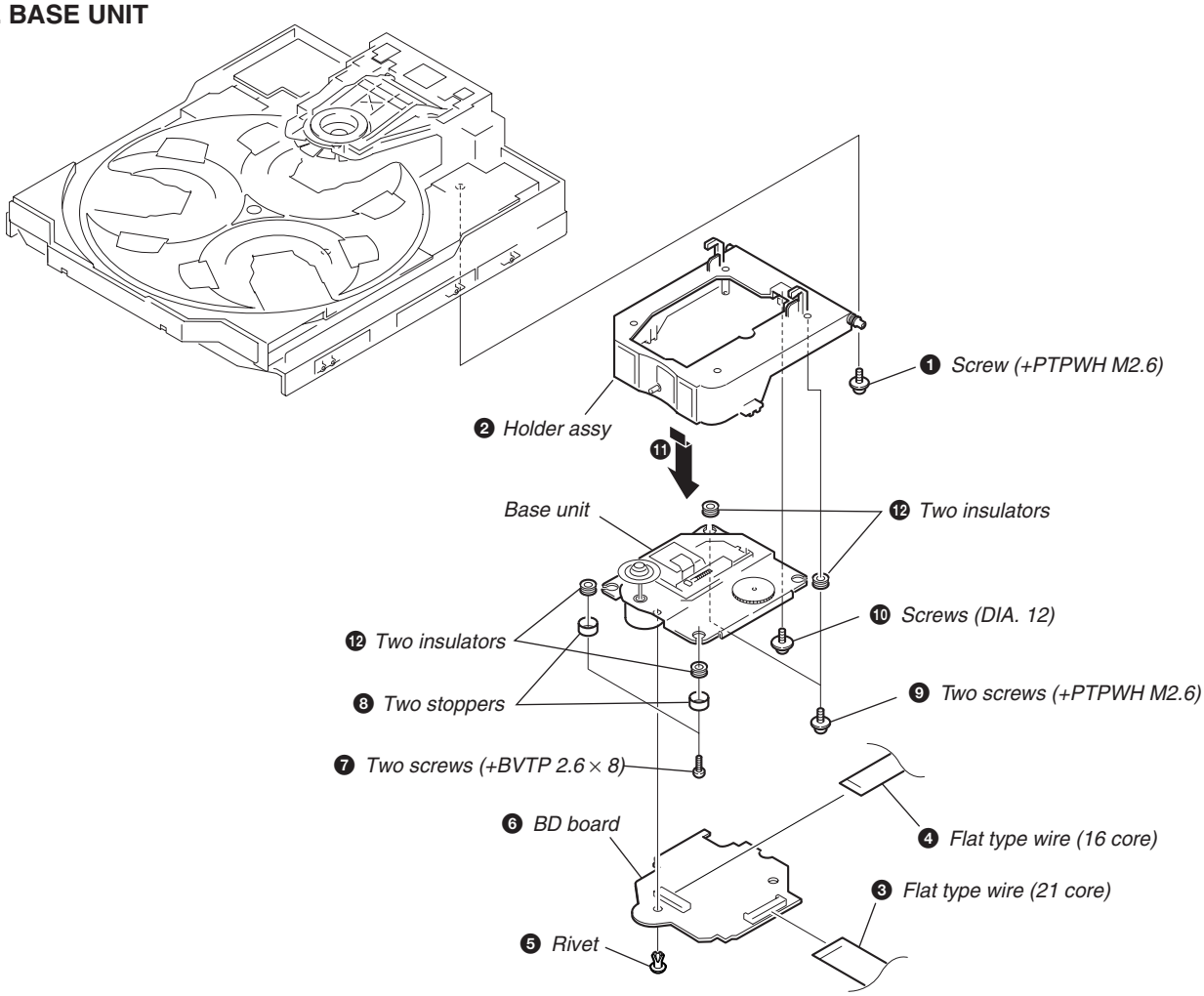
2-6. MAIN BOARD AND POWER BOARD


❼ Heat sink
❹ Three screws (+BVTP 3× 10)
❻ Two screws (+BVTT 3× 8)
Main board
❺ Power board
❸ Two screws (+BVTP 3× 16)
❷ Main board
❶ Two screws (+BVTP 3× 10)

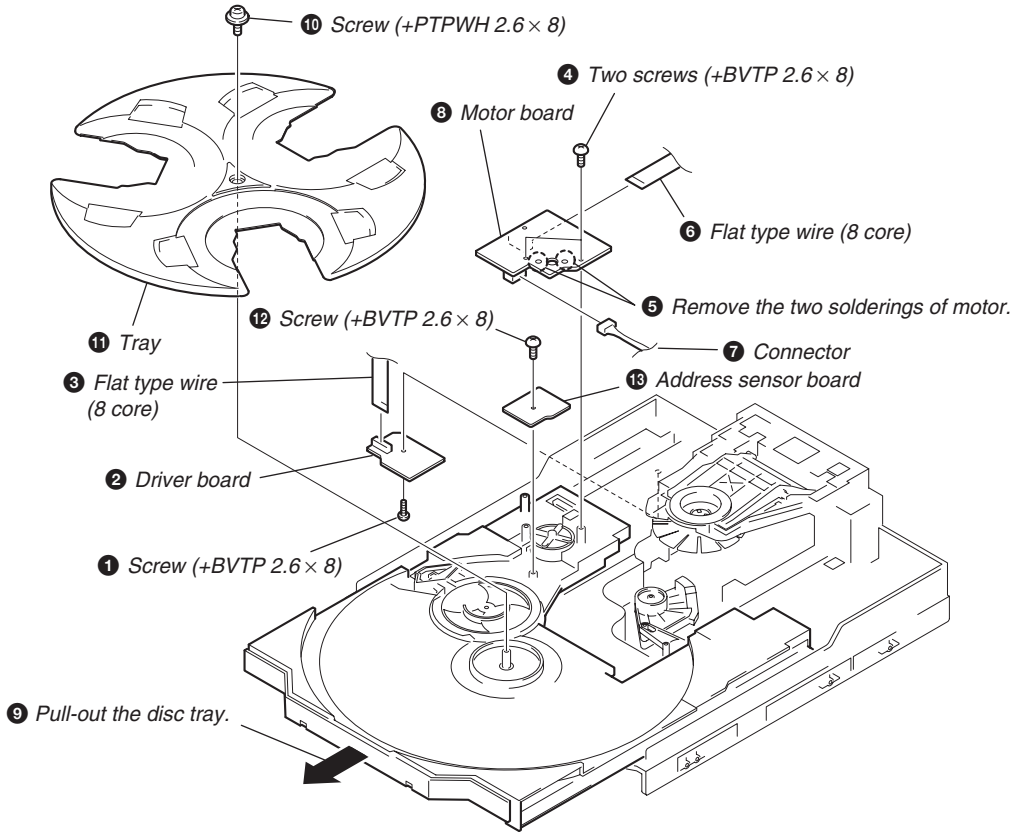
2-7. LEAF SW BOARD, HEAD (A) BOARD AND HEAD (B) BOARD



2-8. BASE UNIT



2-9. DRIVER BOARD, MOTER BOARD AND ADDRESS SENSOR BOARD


⓾ Screw (+PTPWH 2.6 × 8)
❹ Two screws (+BVTP 2.6 × 8)
❽ Motor board
❻ Flat type wire (8 core)
❺ Remove the two solderings of motor.
⓫ Tray
⓬ Screw (+BVTP 2.6 × 8)
❼ Connector
❸ Flat type wire (8 core)
⓭ Address sensor board
❷ Driver board
❶ Screw (+BVTP 2.6 × 8)
❾ Pull-out the disc tray.

SECTION 3
TEST MODE

[Cold Reset]

• The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press three buttons ■ , ENTER, and I/⏻ simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

[Hot Reset]

• This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure:

1. Press three buttons ■ , ENTER , and DISPLAY simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

[Tuner Step Change]

• A step of AM channels can be changed over between 9 kHz and 10 kHz.

Procedure:

1. Press I/⏻ button to turn the set ON.
2. Select the function "TUNER", and press TUNER/BAND button to select the BAND "AM".
3. Press I/⏻ button to turn the set OFF.
4. Press ENTER and I/⏻ buttons simultaneously, and the display of fluorescent indicator tube changes to "AM 9 k STEP" or "AM 10 k STEP", and thus the channel step is changed over.

[Function Change Mode]

• Select either VIDEO or MD of the external FUNCTION input.

Procedure:

1. Turn on the power.
2. Hold down MD (VIDEO) button then press I/⏻ button , and release I/⏻ button first in order not to switch off the set immediately.
   The another function of the previous function is selected , the input level is also changed and displayed " MD " or "VIDEO".

[GC Test Mode]

• This mode is used to check the software version, FL tube, LED, keyboard and VACS.

Procedure:

1. Press three buttons ■ , ENTER , and DISC 2 simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
3. When you want to enter the software version display mode, press DISC 1. The model number and destination are displayed.
4. Each time DISC 1 is pressed, the display changes starting from MC version, GC version, CD version, CDDM version, CDMA version, CDMB, version BDA version, BDB version, ST version, TA version, TM version and TC version in this order, and returns to the model number and destination display.
5. When DISC 3 is pressed while the version numbers are being displayed except model number and destination, year, month and day of the software creation appear. When DISC 3 is pressed again, the display returns to the software version display. When DISC 1 is pressed while year, month and day of the software creation are being displayed, the year, month and day of creation of the software versions are displayed in the same order of version display.
6. Press DISC 2 button, and the key check mode is activated.
7. In the key check mode, the fluorescent indicator tube displays "K0 V0". Each time a button is pressed, "KEY" value increases. However, once a button is pressed, it is no longer taken into account.
   "VOL" value increases like 1, 2, 3 ... if rotating VOLUME knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "–" direction.
8. Also when DISC 3 is pressed after lighting of all LEDs and FL tubes, value of VACS appears.
9. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

[MC Test Mode]

• This mode is used to check operations of the respective sections of Amplifier, Tuner, and Tape.

Procedure:

* To enter MC Test Mode

1. Press the I/⏻ button to turn on the set.
2. Press the three buttons of ■ , ENTER and DISC 3 simultaneously.
3. The messages MUSIC, MOVIE, GAME and P FILE flash on the FL display tube.
   The input FUNCTION is Changed to VIDEO.

* Check of Amplifier

1. When △ (CURSOR UP) button is pressed, GEQ increases to its maximum and a message "GEQ MAX" appears.
2. When ▽ (CURSOR DOWN) button is pressed, GEQ decreases to its minimum and a message "GEQ MIN" appears.
3. When ◁ (CURSOR LEFT) or ▷ (CURSOR RIGHT) button is pressed, GEQ is set to flat and a message "GEQ FLAT" appears.
4. When the VOLUME control knob is turned clockwise even slightly, the sound volume increases to its maximum and a message "VOLUME MAX" appears for two seconds, then the display returns to the original display.
5. When the VOLUME control knob is turned counter-clockwise even slightly, the sound volume decreases to its minimum and a message "VOLUME MIN" appears for two seconds, then the display returns to the original display.

* Check of clock frequency

1. To check the frequency of clock used to run the time in the unit, the clock output is available at pin 39 (IC 501, MASTER CONTROL) only during MC test mode.
2. The frequency is 32.768 kHz or so.

* Tuner function

1. In the test mode, the default-preset channel is called even when the TUNER is selected and an attempt is made to call the preset channel that has been stored in memory. (It means that the memory is cleared.)
2. The minimum, center and maximum frequency of each band is set then.

* Tape function
1. When a tape is inserted in Deck B and recording is started, the input source function selects VIDEO automatically.
   When [CD SYNC/HI-DUB] button is pressed during Rec in function, ALC is turned on.
2. When [■] button is pressed to stop recording, the Tape (Deck) B is selected and tape is rewound, tape is rewound using [◀◀] button, tape is stops at around the record-starting position and playback of the recorded portion of the tape is started. If PAUSE is inserted even once during recording, tape is rewound to the position around the PAUSE position and is played back.
3. When [CD SYNC / HI-DUB] button is pressed during playback of Deck B, either normal speed or high speed can be selected by this button.

* AMS Test Mode
1. Set TAPE function
2. Select the desired loop by pressing the [PLAY MODE] button. Insert a test tape AMS-110A or AMS-120 to Deck A.
3. Press the [SPECTRUM] button to enter the AMS test mode.
4. After a tape is rewound first, the FF AMS is checked, and the mechanism is shut off after detecting the AMS signal twice.
5. Then the REW AMS is checked and the mechanism is shut off after detecting the AMS signal twice.
6. When the check is complete, a message of either OK or NG appears.

* To return to normal mode again.
1. When you want to exit this mode, press the [I/⏻] button.
2. The cold reset is enforced at the same time.

[VACS ON/OFF Mode]
- This mode is used to switch ON and OFF the VACS (Variable Attenuation Control System).

Procedure:
Press the [ENTER] and [SPECTRUM] buttons simultaneously. The message “VACS OFF” or “VACS ON” appears.

[CD Service Mode]
- This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pickup.

Procedure:
1. Press [I/⏻] button to turn the set ON.
2. Select the function “CD”.
3. Press three buttons [■], [ENTER], and [OPEN/CLOSE] simultaneously.
4. The CD service mode is selected.
5. With the CD in stop status, press [▶▶+] button to move the pickup to outside track, or press [◀◀−] button to inside track.
6. To exit from this mode, perform as follows:
   1) Move the pickup to the most inside track.
   2) Press [I/⏻] button to turn the set OFF.

Note:
- Always move the pickup to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
- Do not run the sled motor excessively, otherwise the gear can be chipped.

[CD Ship Mode (Memory Clear)]
- This mode moves the pickup to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:
1. Press [I/⏻] button to turn the set ON.
2. Press three buttons [■], [ENTER] and [GAME] simultaneously.
3. After the "STANDBY" display blinks six times, a message “LOCK” is displayed on the fluorescent indicator tube, and the CD ship mode is set.

[CD Ship Mode (No Memory Clear)]
- This mode moves the pickup to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:
1. Press [I/⏻] button to turn the set ON.
2. Press [CD] button and [I/⏻] button simultaneously.
3. After the "STANDBY" display blinks six times, a message “LOCK” is displayed on the fluorescent indicator tube, and the CD ship mode is set.

SECTION 4
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   - record/playback heads
   - erase head
   - capstan
   - pinch rollers
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	3.06 N • m to 6.96 N • m 31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	0.19 N • m to 0.58 N • m 2 to 6 g • cm (0.02 – 0.08 oz • inch)
REV	CQ-102RC	3.06 N • m to 6.96 N • m 31 to 71 g • cm (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	0.19 N • m to 0.58 N • m 2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	6.96 N • m to 14.02 N • m 71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	9.80 N • m 100 g or more (3.53 oz or more)
REV tension	CQ-403R	9.80 N • m 100 g or more (3.53 oz or more)

SECTION 5
ELECTRICAL ADJUSTMENTS

DECK SECTION 0 dB=0.775 V

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjust.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

• Test Tape

Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300J	315 Hz, 0 dB	Level Adjustment

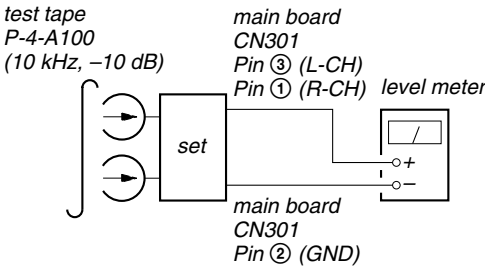
Record/Playback Head Azimuth Adjustment

DECK A **DECK B**

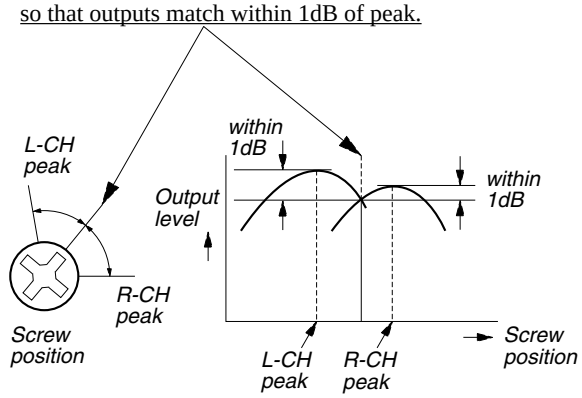
Note: Perform this adjustments for both decks

Procedure:

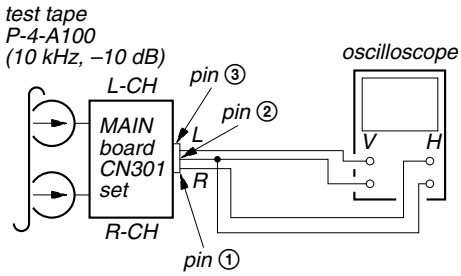
1. Mode: Playback

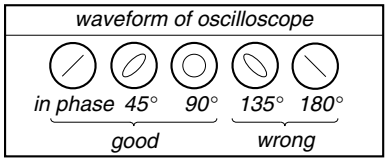


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.



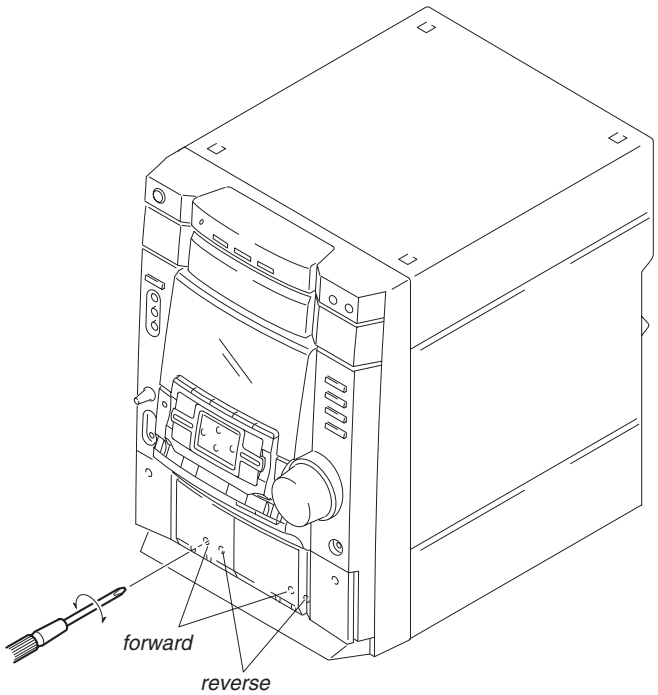
3. Mode: Playback





4. After the adjustments, apply suitable locking compound to the pats adjusted.

Adjustment Location: Playback Head (Deck A).
Record/Playback/Erase Head (Deck B).



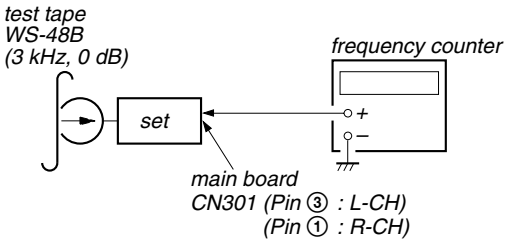
Tape Speed Adjustment DECK B

Note: Start the Tape Speed adjustment as below after setting to the test mode.
In the test mode, the tape speed is high during pressing the CD SYNC/HI-DUB button.

Procedure:

1. Turn the power switch on.
2. Press the ■ button, ENTER button and DISC 3 button simultaneously.
(The "TEST MODE" on the fluorescent indicator tube display while in the test mode.)
To exit from the test mode, press the I/⏻ button.

Mode: Playback



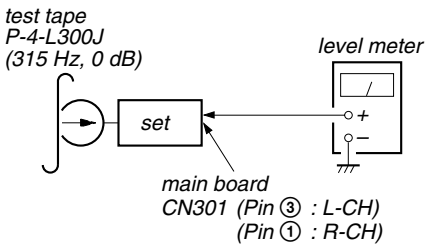
1. Insert the WS-48B into the deck B.
2. Press the ◁▷ button on the deck B.
3. Press the CD SYNC/HI-DUB button in playback mode.
Then at HIGH speed mode.
4. Adjust RV1001 on the LEAF SW board so that frequency counter reads 6,000 ± 30 Hz.
5. Press the CD SYNC/HI-DUB button.
Then back to NORMAL speed mode.
6. Adjust RV1002 on the LEAF SW board so that frequency counter reads 3,000 ± 15 Hz.

Adjustment Location: LEAF SW board

Playback level Adjustment DECK A DECK B

Procedure:

Mode: Playback



1. Confirm that level difference between the channels is with ± 0.5 dB.
2. After check, adjust the following RVs.
Deck A is RV302 (L-CH), Deck B is RV303 (L-CH) so that adjustment within adjustment level as follows.

Adjustment Level:
CN301 PB level: 334.4 to 748.7 mV (–7.3 to –0.3 dB)

Adjustment Location: MAIN board

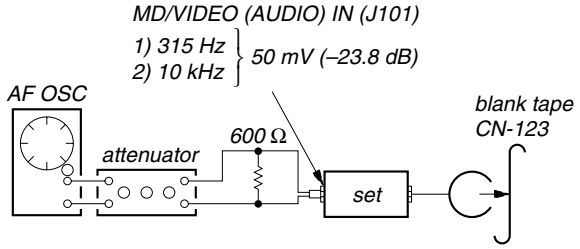
Sample Volue of Wow and Flutter: 0.3% or less W. RMS
(WS-48B)

REC Bias Adjustment DECK B

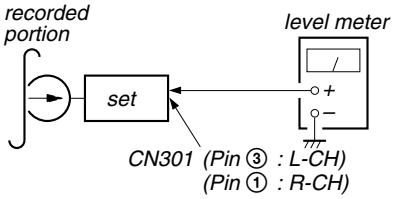
Procedure:

In the MC test mode, the "REC memory mode" is convenient for this adjustment. In the "REC memory mode" , when the REC starts the input signal FUNCTION is switched to VIDEO automatically. When the REC stops, the tape returns near to the recording start position.

1. Press MD (VIDEO) button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B.
3. After press REC PAUSE/START button, press REC PAUSE/START button, then recording start.
4. Mode: Record



5. Mode: Playback



6. Confirm the playback signal recorded in step 3 becomes adjustable level as follows.
   If these levels are not adjustable level, adjust the RV304 (L-CH) and RV354 (R-CH) on the MAIN board to repeat steps 4 and 5.

Adjustable level: Playback output of 315 Hz to playback output of 10 kHz: ±1.0 dB

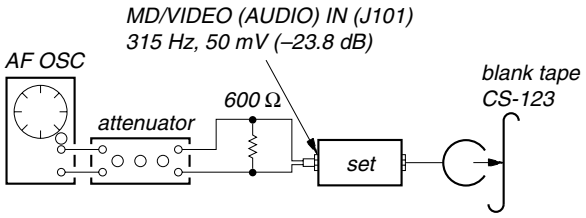
Adjustment Location: MAIN board

REC Level Adjustment DECK B

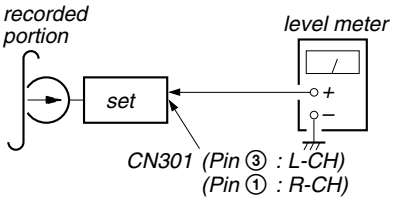
Procedure:

In the MC test mode, the "REC memory mode" is convenient for this adjustment. In the "REC memory mode" , when the REC starts the input signal FUNCTION is switched to VIDEO automatically. When the REC stops, the tape returns near to the recording start position.

1. Press MD (VIDEO) button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B.
3. After press REC PAUSE/START button, press REC PAUSE/START button, then recording start.
4. Mode: Record



5. Mode: Playback



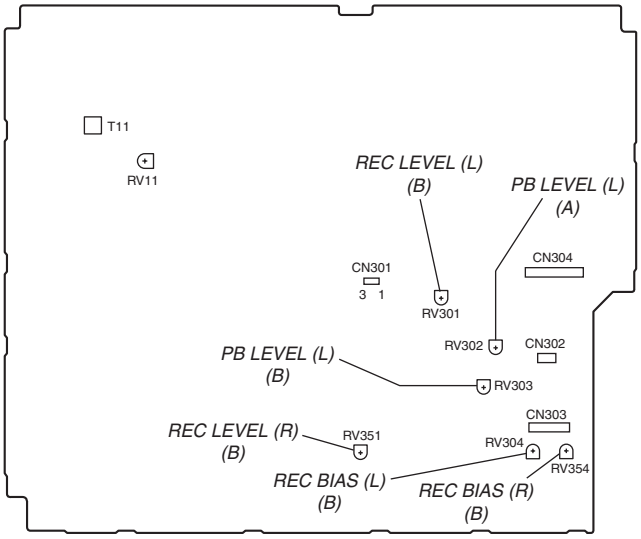
6. Confirm the play back signal recorded in step 3 becomes adjustable level as follows.
   If these levels are not adjustable level, adjust the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 4 and 5.

Adjustable level:

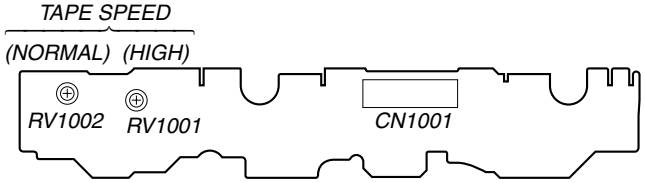
CN301 PB level: 47.2 to 53.0 mV (–24.3 to –23.3 dB)

Adjustment Location: MAIN board

[MAIN BOARD] (Component Side)

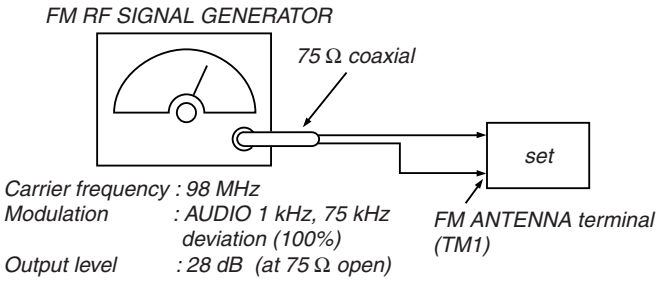


[LEAF SW BOARD] (Component Side)



TUNER SECTION

FM Tuned Level Adjustment

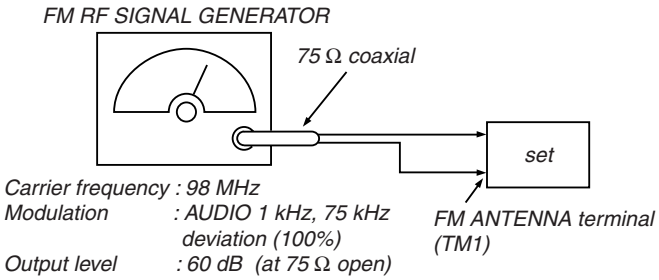

FM RF SIGNAL GENERATOR
75 Ω coaxial
set
Carrier frequency : 98 MHz
Modulation : AUDIO 1 kHz, 75 kHz deviation (100%)
Output level : 28 dB (at 75 Ω open)
FM ANTENNA terminal (TM1)

Procedure:

1. Supply a 98 MHz signal at 28 dB from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. Adjust RV11 to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location: MAIN board

Null Adjustment


FM RF SIGNAL GENERATOR
75 Ω coaxial
set
Carrier frequency : 98 MHz
Modulation : AUDIO 1 kHz, 75 kHz deviation (100%)
Output level : 60 dB (at 75 Ω open)
FM ANTENNA terminal (TM1)

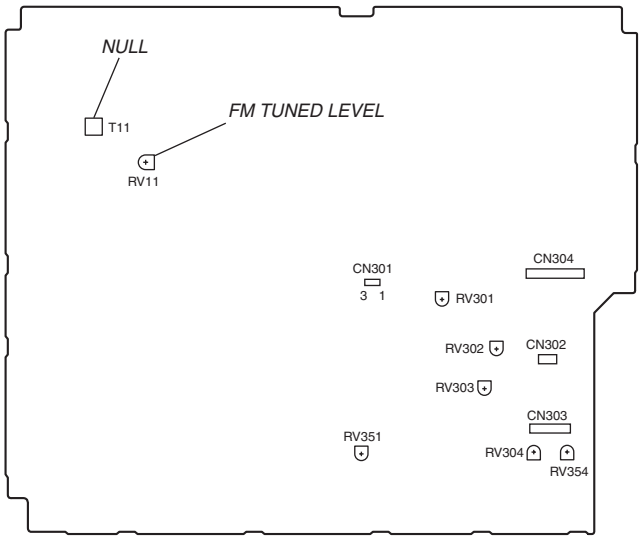
Procedure:

1. Supply a 98 MHz signal at 60 dB from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. Measure voltage between pin 22 and pin 3 of IC11. Adjust T11 until the voltage becomes 0 V.

Adjustment Location: MAIN board

Adjustment Location

[MAIN BOARD] (Component Side)

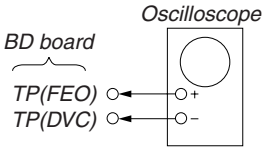


CD SECTION

Note :

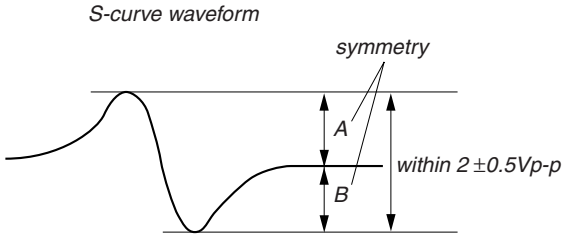
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use LUV-P01 (4-999-032-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check



Procedure :

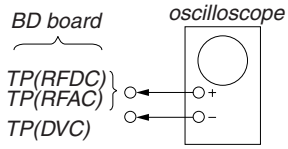
1. Connect an oscilloscope to TP (FEO).
2. Connect between TP (FEI) and TP (DVC) (≒1.65 V) by lead wire.
3. Turn Power switch on.
4. Load a disc (LUV-P01) and actuate the focus search. (In consequence of open and close the disc tray, actuate the focus search)
5. Confirm that the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 2 ± 0.5 Vp-p.



6. After check, remove the lead wire connected in step 2.

Note : • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

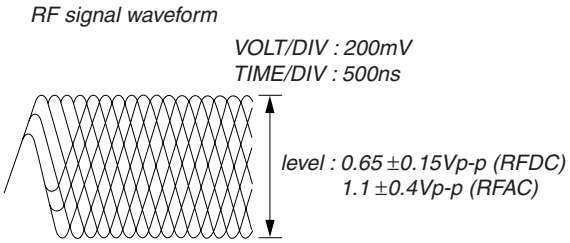
RF Level Check



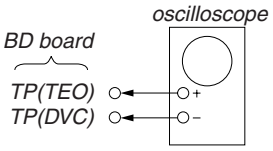
Procedure :

1. Connect an oscilloscope CH1 to TP (RFDC) and CH2 to TP (RFAC).
2. Turn Power switch on.
3. Load a disc (LUV-P01) and playback.
4. Confirm that oscilloscope waveform is clear and check if RF signal level is correct or not.

Note : Clear RF signal waveform means that the shape " ◊ " can be clearly distinguished at the center of the waveform.

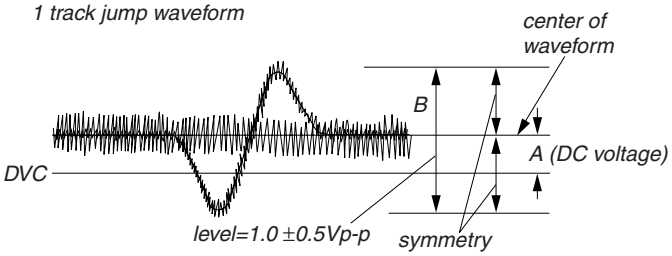


E-F Balance (1 Track jump) Check



Procedure :

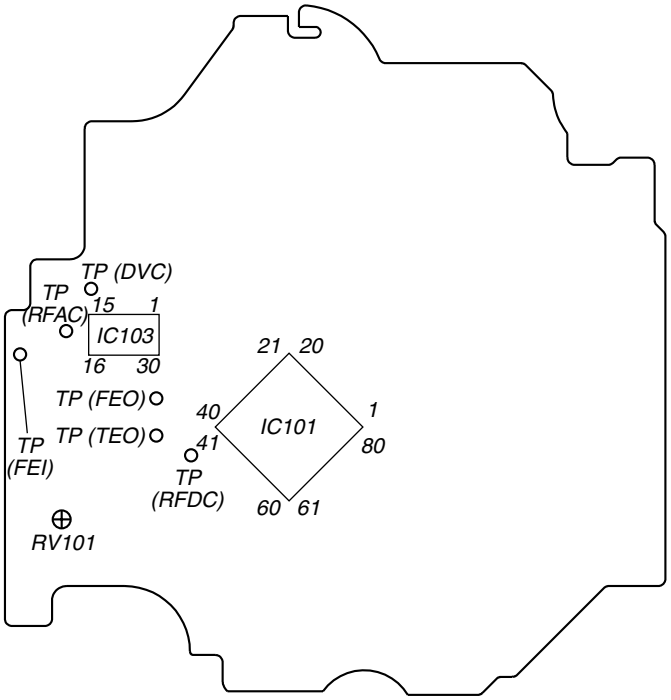
1. Connect an oscilloscope to TP (TEO) and TP (DVC).
2. Turn Power switch on.
3. Load a disc (LUV-P01) and playback the number nine track.
4. Press the ◁▷ button. (Becomes the 1 track jump mode.)
5. Confirm that the level B and A (DC voltage) on the oscilloscope waveform.



6. Adjust RV101 on the BD board so that the center of waveform becomes the same voltage of DVC. (i.e. A=0V)

Adjustment Location:

[BD BOARD] (Conductor Side)



SECTION 6
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

Note on Schematic Diagram:

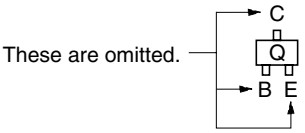
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

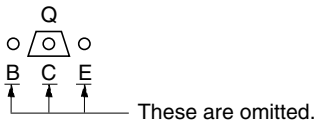
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- ▬ : B+ Line.
- ▬ ▬ ▬ : B– Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⇨ : FM
  - ➡ : AM
  - ⇨ : PB (DECK A)
  - ⇨ : PB (DECK B)
  - ⇨ : REC (DECK B)
  - ⇨ : CD
  - ⇨ : digital out
- Abbreviation
  - AR : Argentina model
  - AUS : Australian model
  - E51 : Chilean and Peruvian model
  - KR : Korea model
  - MX : Mexican model
  - SP : Singapore model

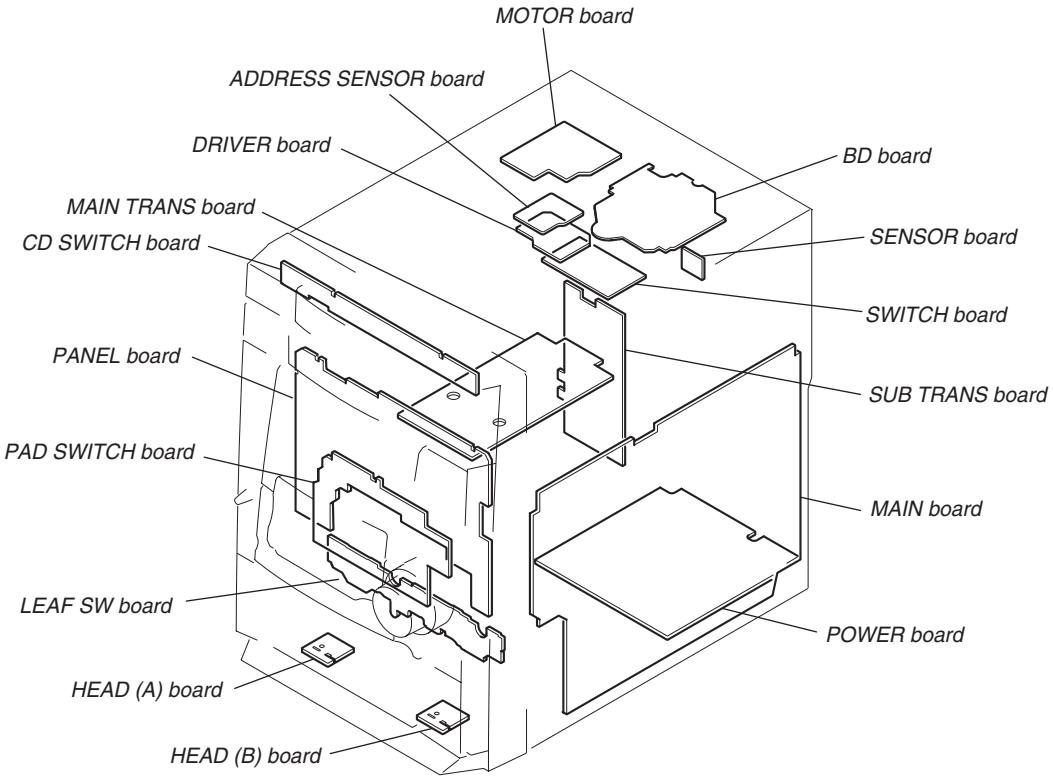
Note on Printed Wiring Boards:

- ○——— : parts extracted from the component side.
- ▬ : Pattern from the side which enables seeing.
- Indication of transistor.



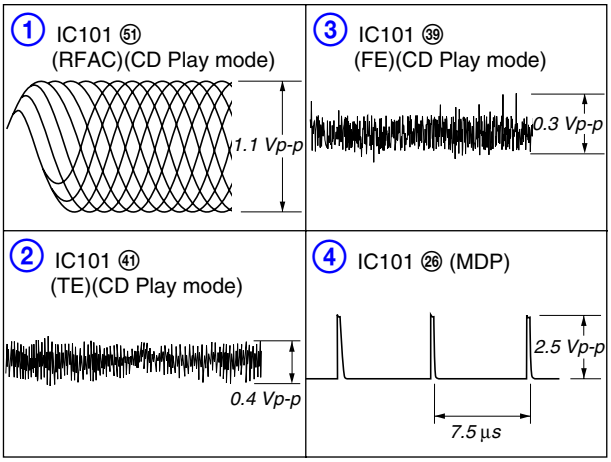


6-1. CIRCUIT BOARD LOCATION

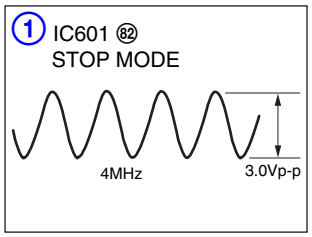


• WAVEFORMS

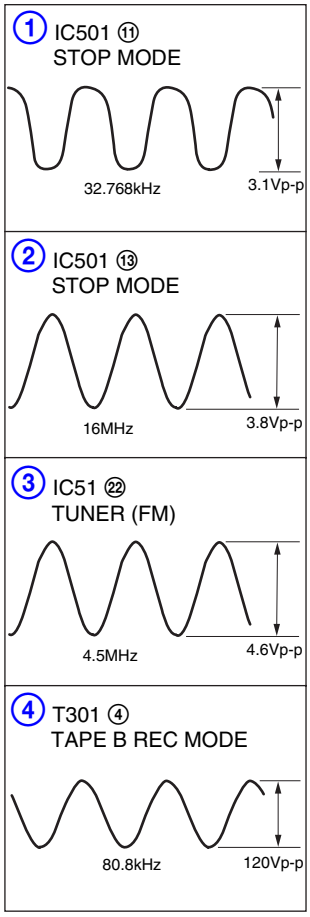
– BD BOARD –



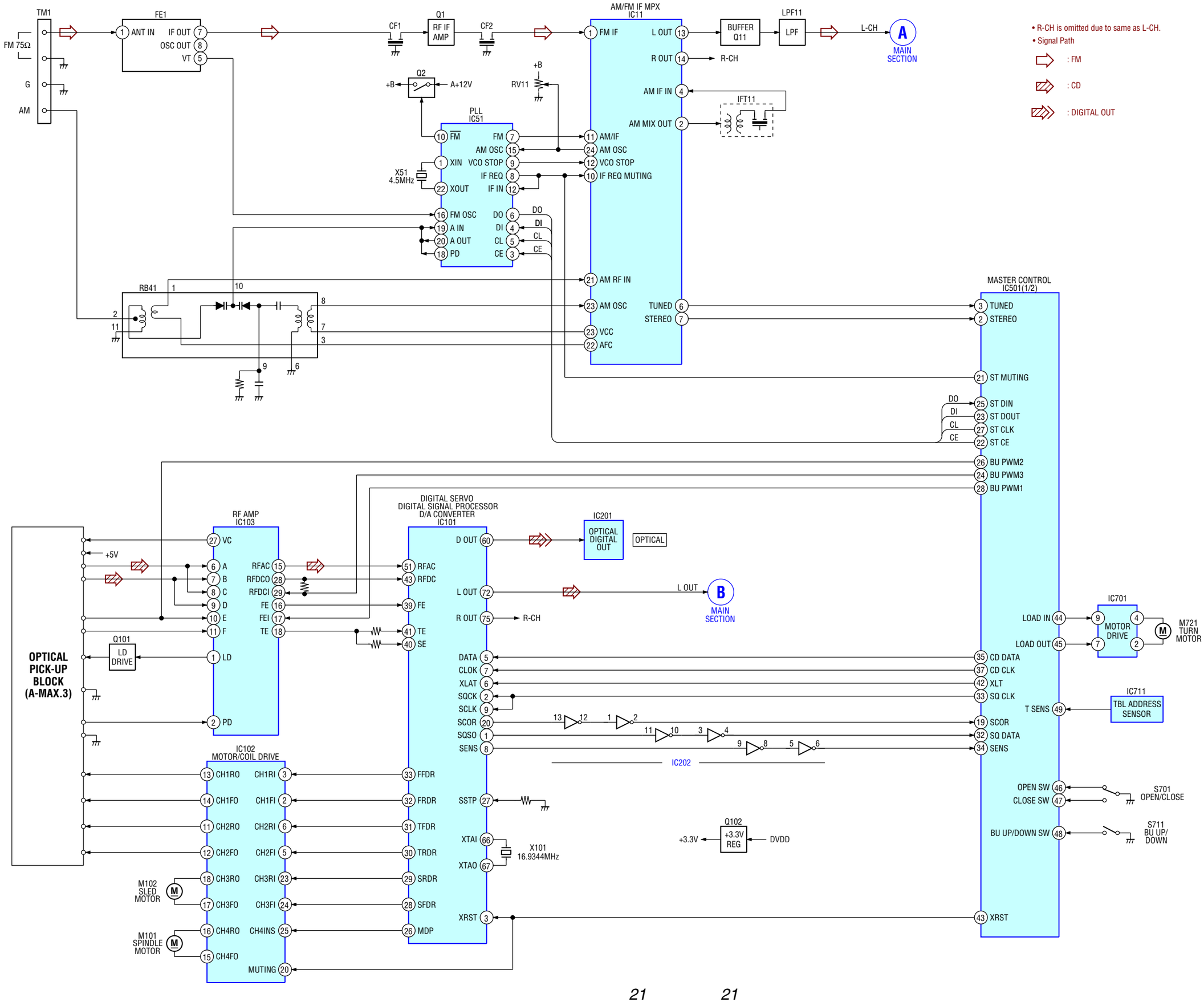
– PANEL BOARD –



– MAIN BOARD –

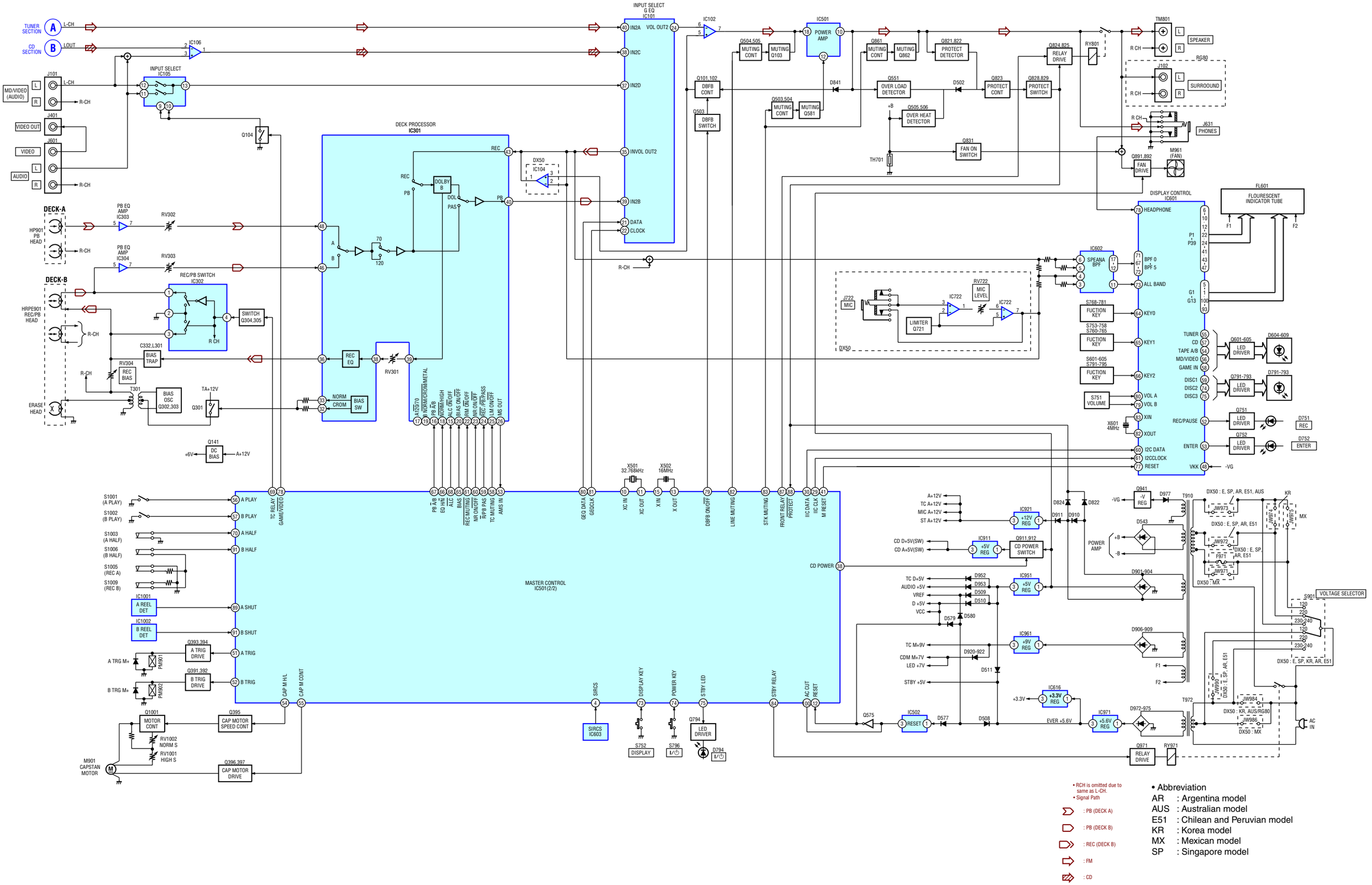


6-2. BLOCK DIAGRAMS
TUNER/CD SECTION



HCD-DX50/RG80

MAIN SECTION



- RCH is omitted due to same as L-CH.
- Signal Path

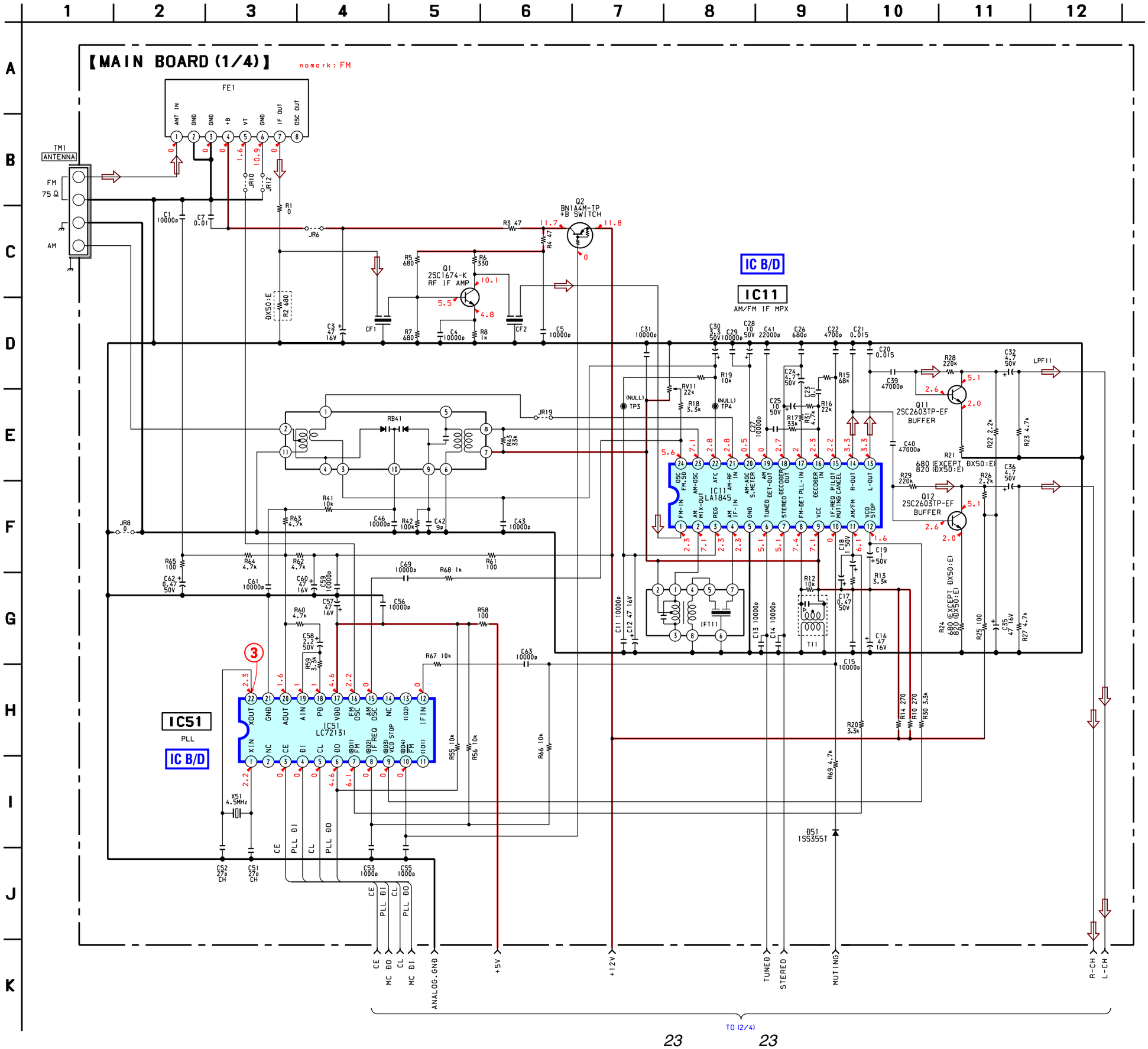
: PB (DECK A)
: PB (DECK B)
: REC (DECK B)
: FM
: CD

- Abbreviation

AR : Argentina model
AUS : Australian model
E51 : Chilean and Peruvian model
KR : Korea model
MX : Mexican model
SP : Singapore model

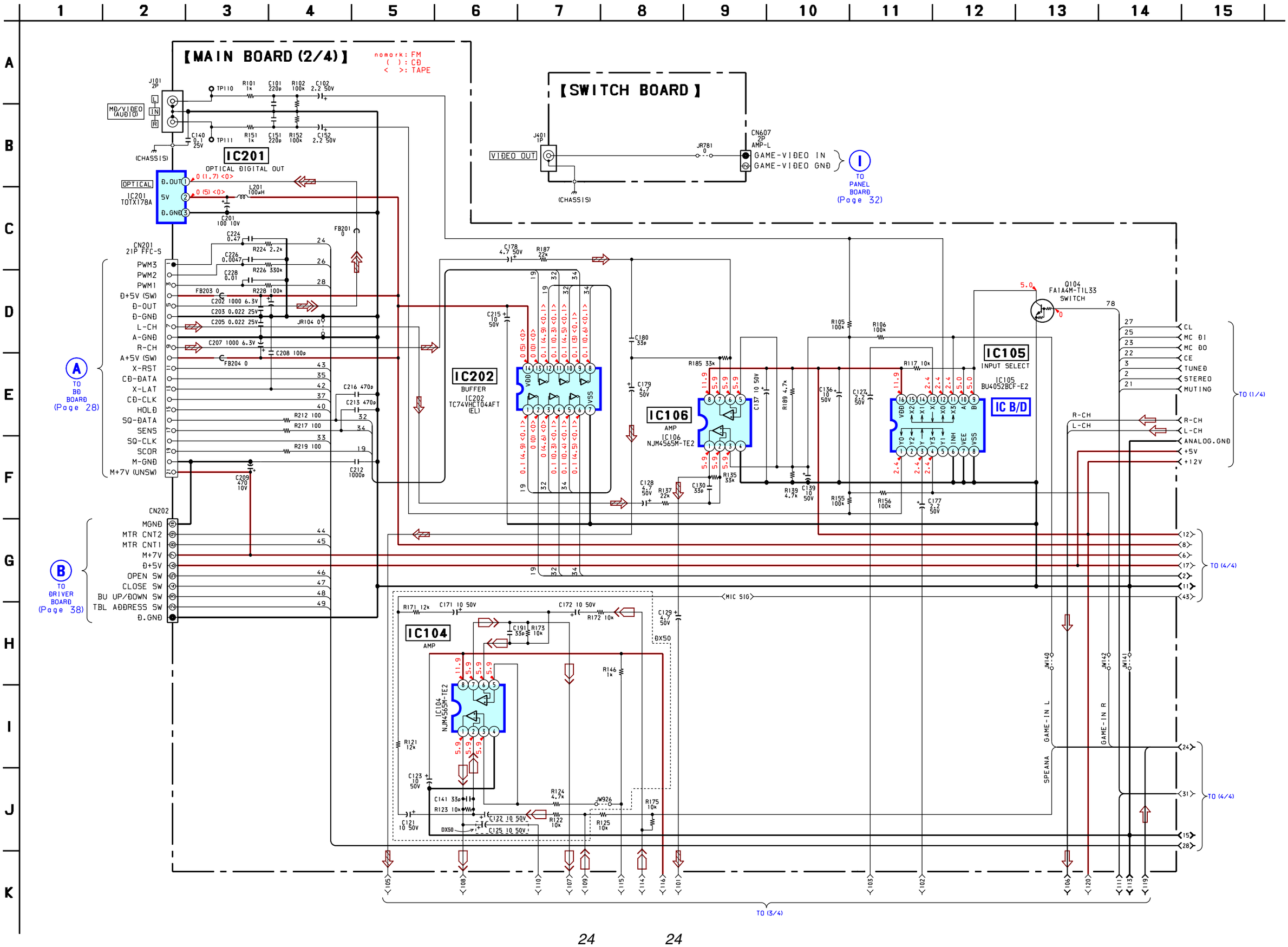
6-3. SCHEMATIC DIAGRAM MAIN SECTION (1/4)

• See page 20 for Waveforms. • See page 45 for IC Block Diagrams.



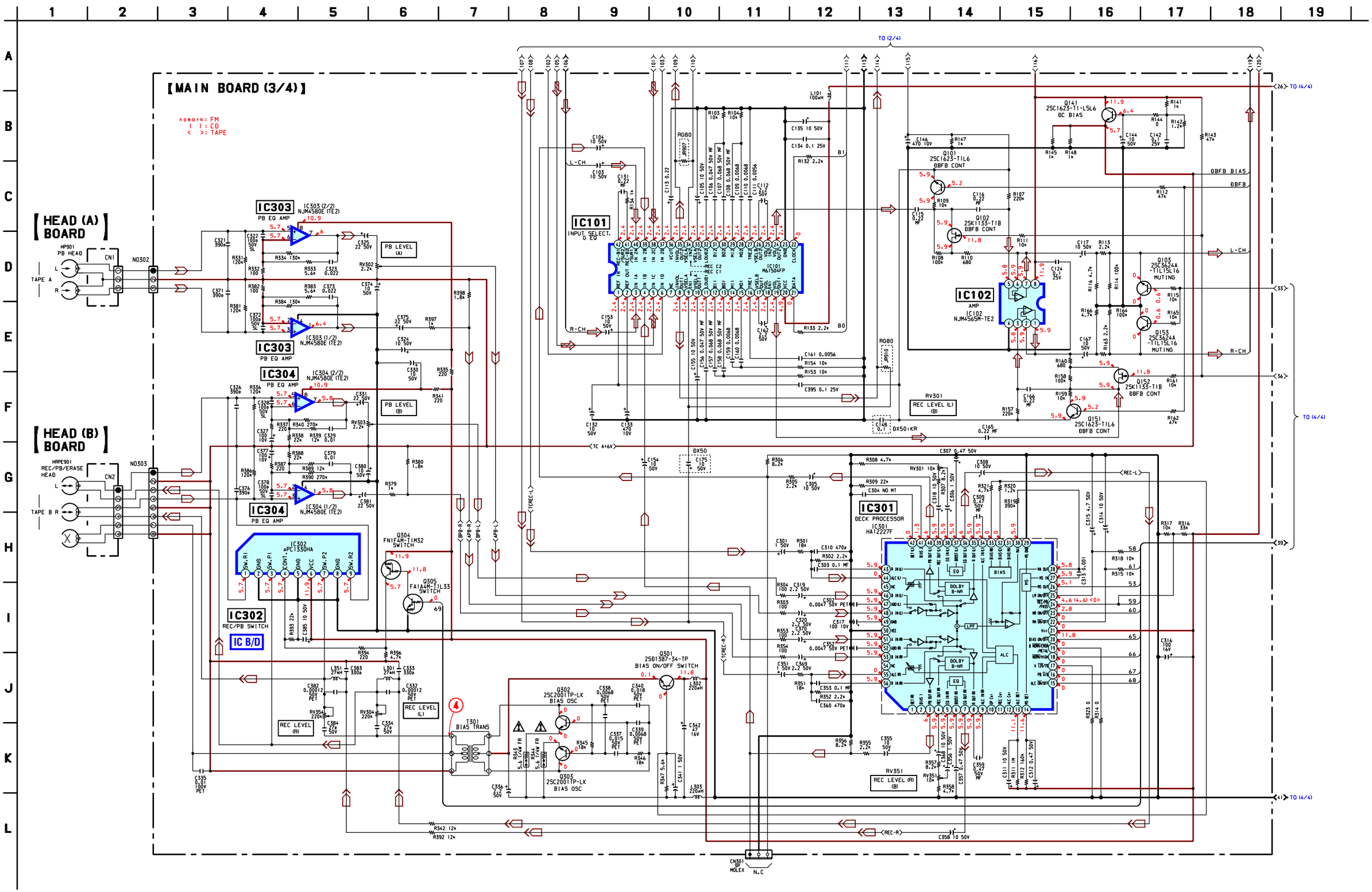
6-4. SCHEMATIC DIAGRAM MAIN SECTION (2/4)

• See page 45 for IC Block Diagrams.
• See page 42 for Printed Wiring Board of Switch Board.



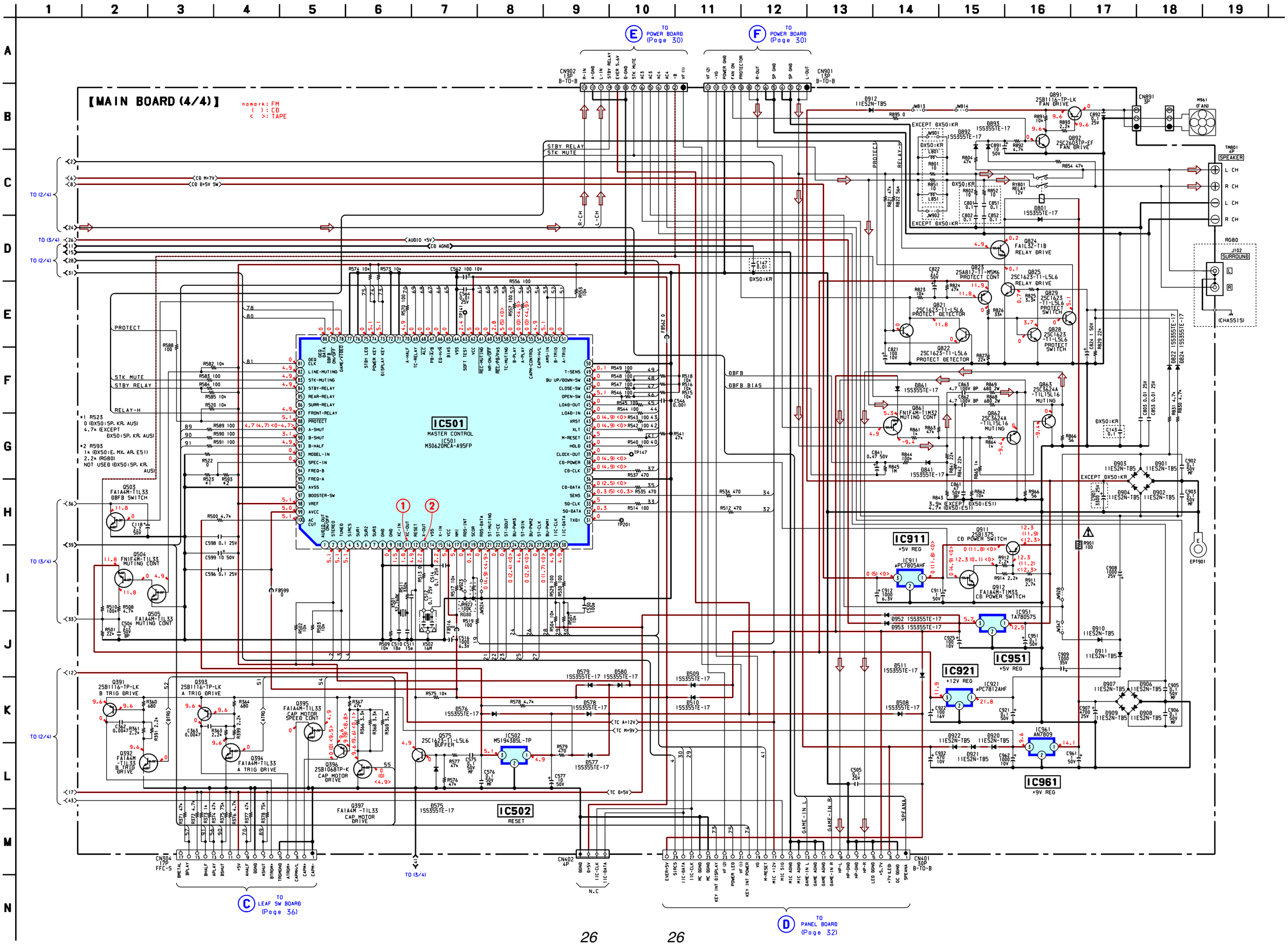
6-5. SCHEMATIC DIAGRAM MAIN SECTION (3/4)

- See page 20 for Waveforms.
- See page 45 for IC Block Diagrams.
- See page 37 for Printed Wiring Board of Head Boards.



6-6. SCHEMATIC DIAGRAM MAIN SECTION (4/4)

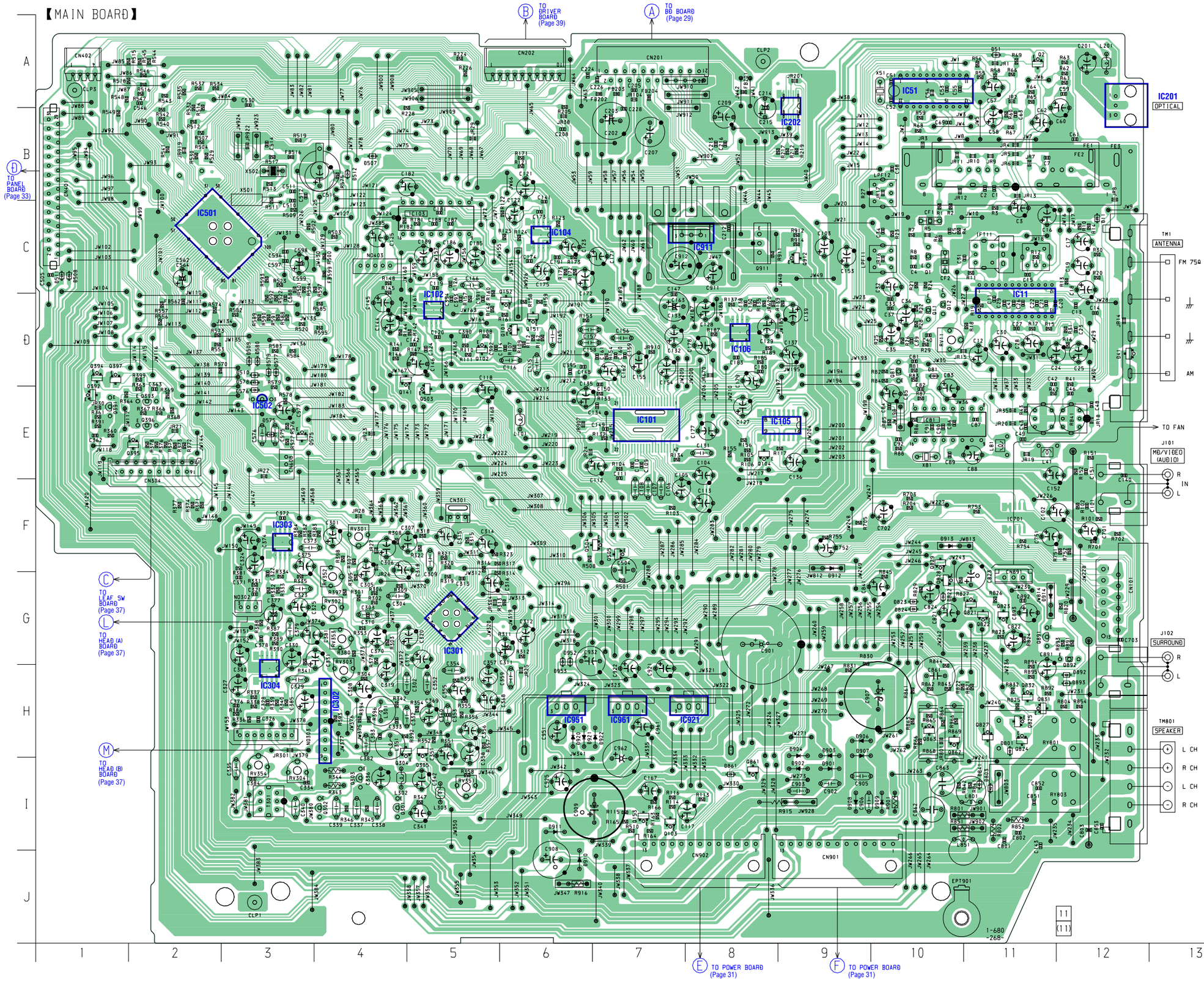
• See page 20 for Waveforms.
• See page 42 for IC Pin Function Description.



6-7. PRINTED WIRING BOARD MAIN SECTION

• See page 20 for Circuit Boards Location.

There are a few cases that the part printed on this diagram isn't mounted in this model.

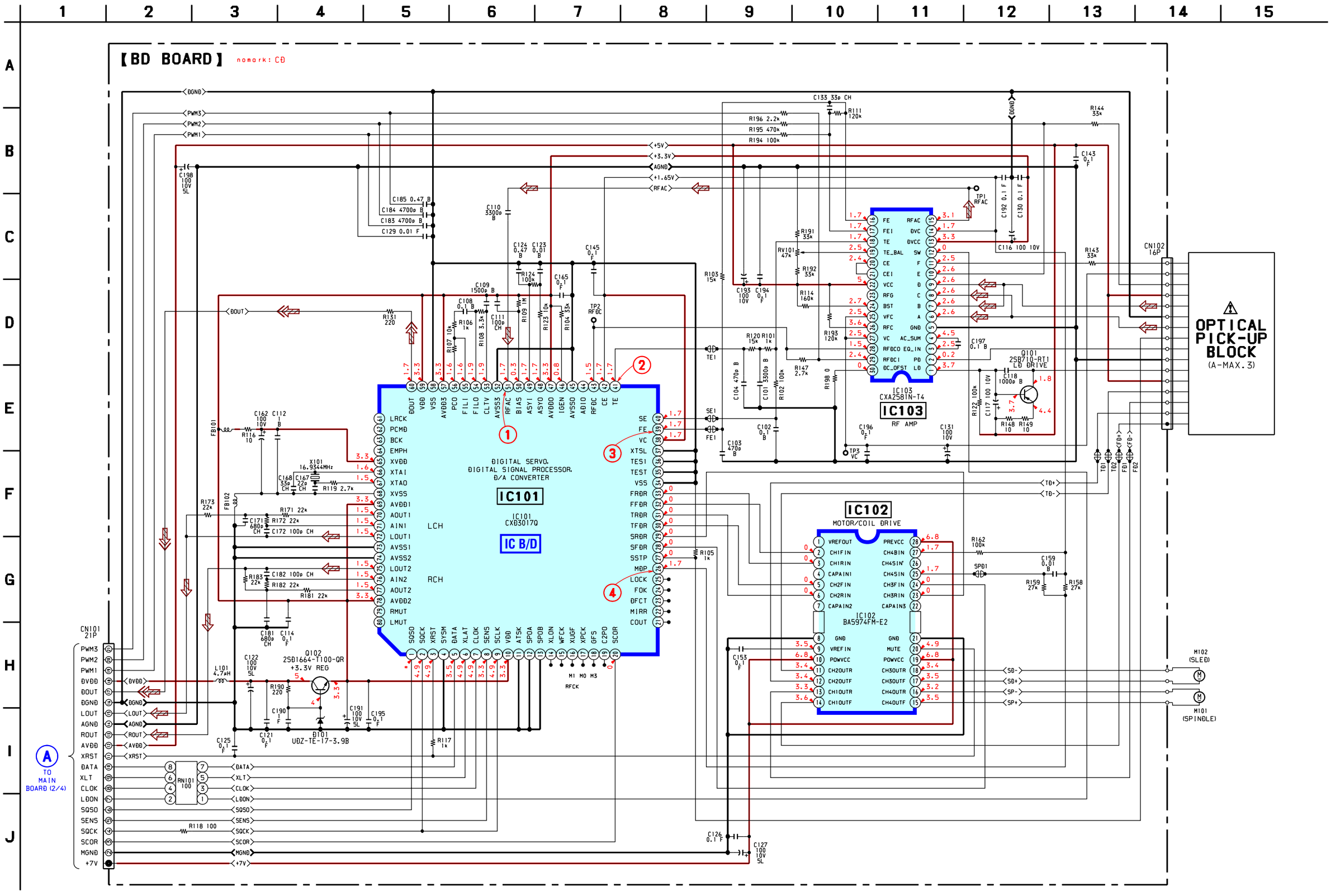


• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D11	C-12	Q1	C-10
D51	A-11	Q2	H-11
D508	C-1	Q11	D-10
D509	D-3	Q12	D-10
D510	D-3	Q101	D-6
D511	C-1	Q102	D-5
D575	E-3	Q103	I-7
D576	E-3	Q104	E-8
D577	D-3	Q141	D-5
D578	D-3	Q151	D-6
D579	D-3	Q152	D-5
D580	D-3	Q153	I-7
D801	H-11	Q301	I-4
D822	G-10	Q302	I-4
D824	G-10	Q303	I-4
D841	I-11	Q304	H-4
D861	I-8	Q305	H-5
D892	H-12	Q391	E-1
D893	H-12	Q392	E-1
D901	I-9	Q393	E-2
D902	I-9	Q394	D-1
D903	H-9	Q395	E-2
D904	H-9	Q396	E-2
D906	H-9	Q397	D-1
D907	I-9	Q503	E-5
D908	I-9	Q504	F-6
D909	I-10	Q505	F-7
D910	J-6	Q575	E-3
D911	I-6	Q821	G-11
D912	F-9	Q822	G-11
D920	H-6	Q823	G-11
D921	H-6	Q824	H-11
D922	H-7	Q825	H-11
D952	G-6	Q828	G-10
D953	G-6	Q829	F-10
		Q861	I-8
IC11	D-11	Q862	I-10
IC51	B-10	Q863	I-10
IC101	E-7	Q891	G-11
IC102	D-5	Q892	H-12
IC104	C-6	Q911	C-8
IC105	E-8	Q912	C-9
IC106	D-8		
IC201	B-12		
IC202	B-9		
IC301	G-5		
IC302	H-4		
IC303	F-3		
IC304	H-3		
IC501	C-2		
IC502	E-3		
IC911	C-8		
IC921	H-7		
IC951	H-6		
IC961	H-7		

6-8. SCHEMATIC DIAGRAM BD SECTION

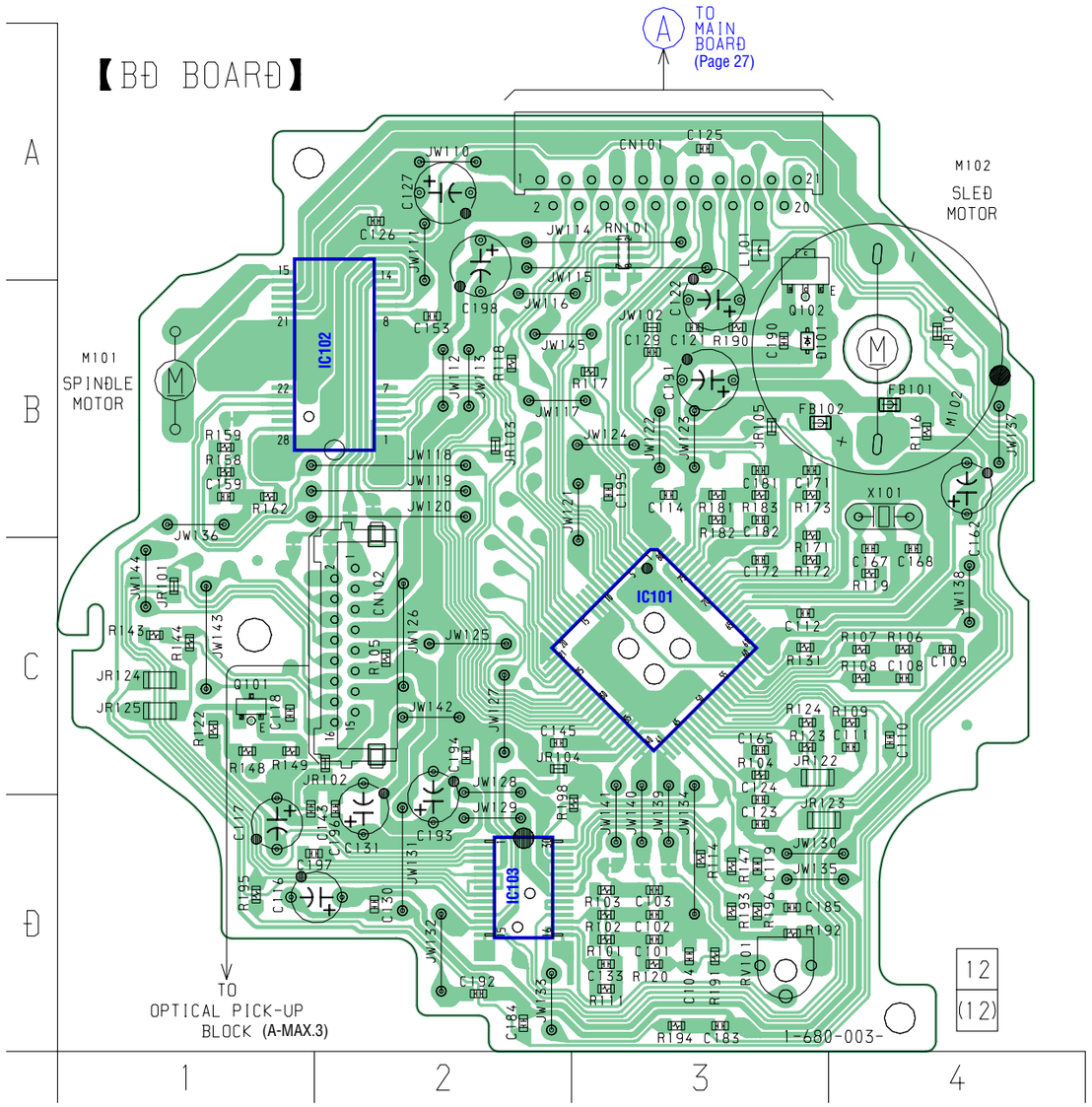
• See page 20 for Waveforms.
• See page 46 for IC Block Diagrams.



6-9. PRINTED WIRING BOARD BD SECTION

• See page 20 for Circuit Boards Location.

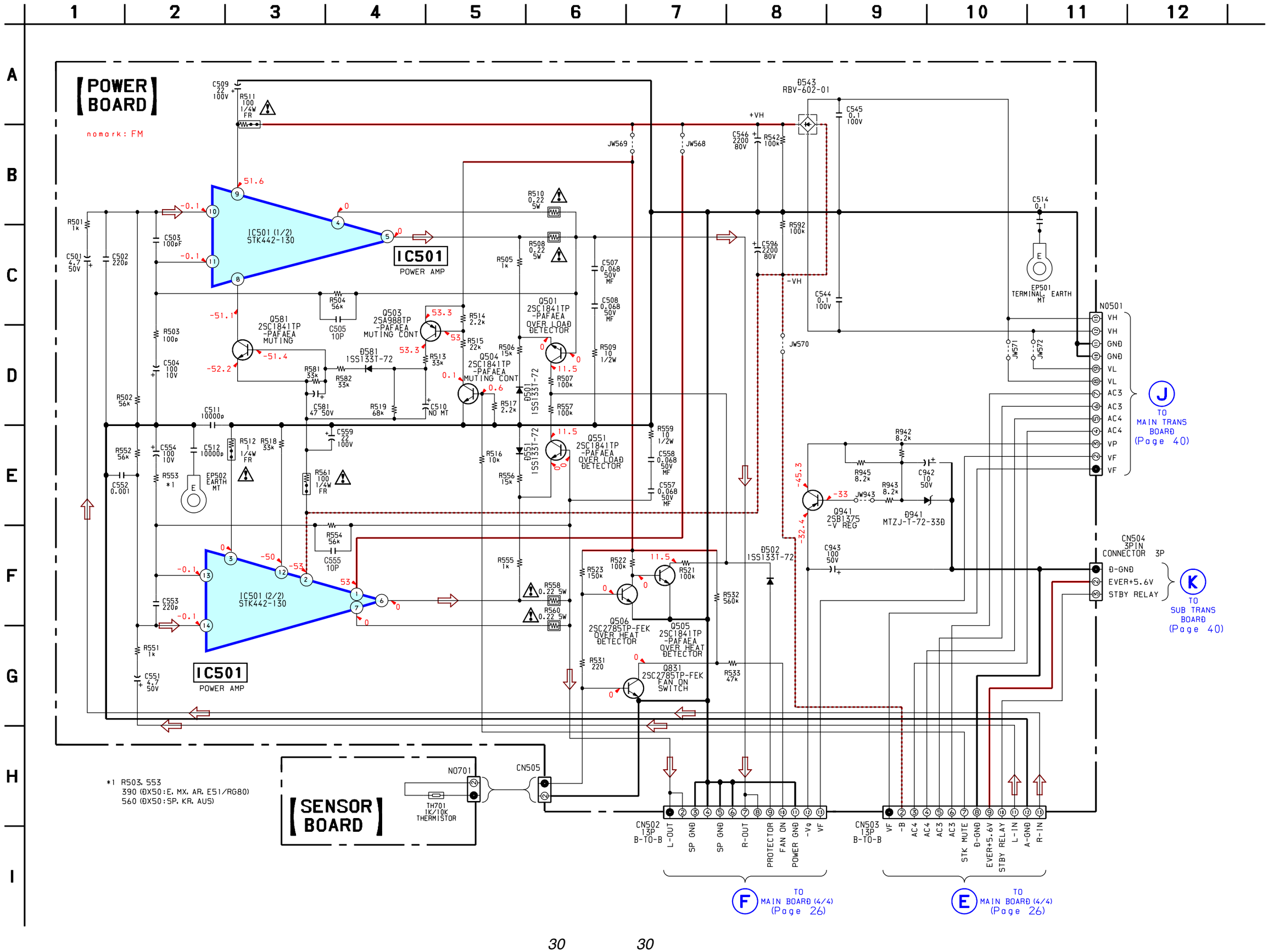
There are a few cases that the part printed on this diagram isn't mounted in this model.



• **Semiconductor Location**

Ref. No.	Location
D101	B-3
IC101	C-3
IC102	B-2
IC103	D-2
Q101	C-1
Q102	A-3

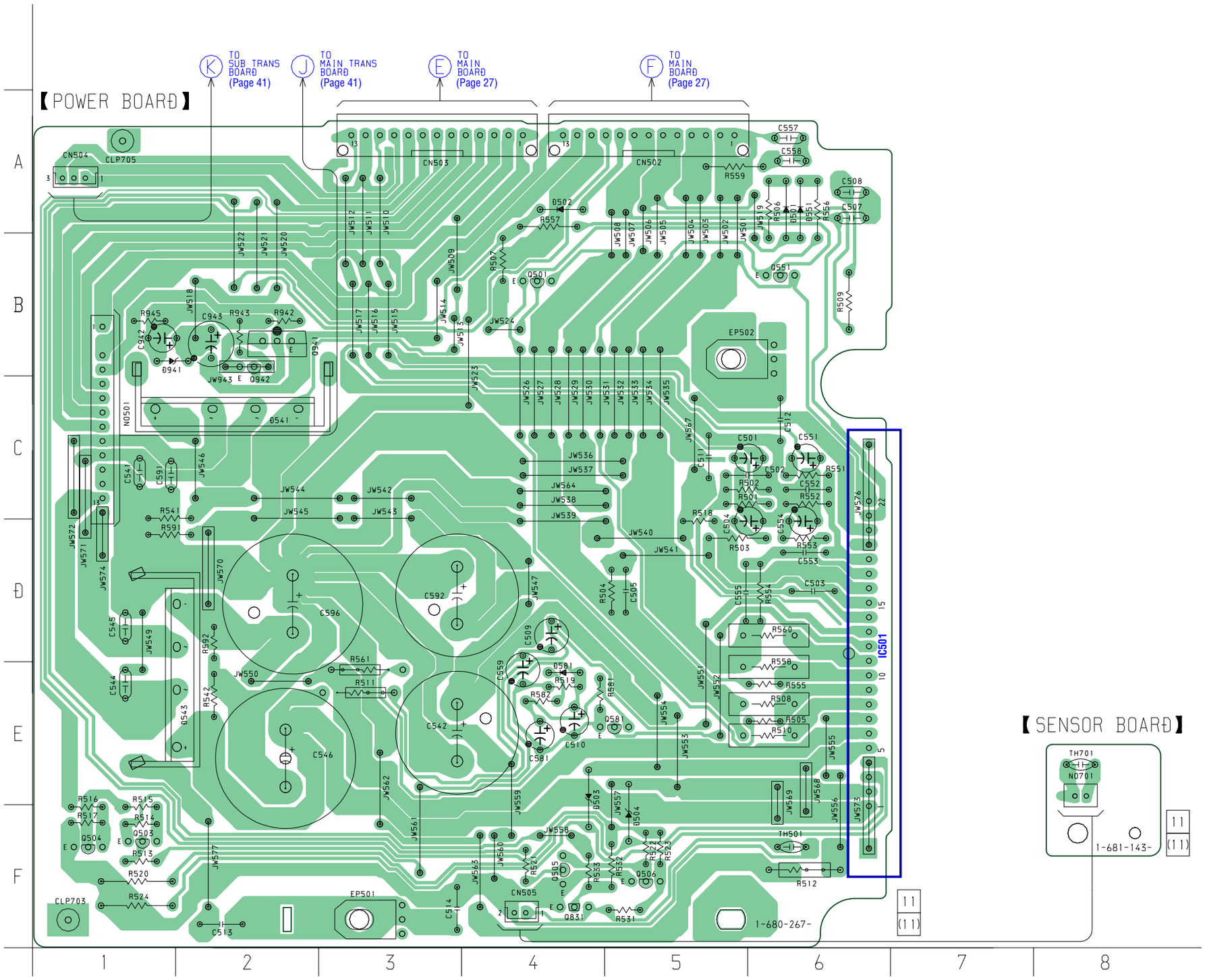
6-10. SCHEMATIC DIAGRAM AMP SECTION



6-11. PRINTED WIRING BOARD AMP SECTION

• See page 20 for Circuit Boards Location.

There are a few cases that the part printed on this diagram isn't mounted in this model.

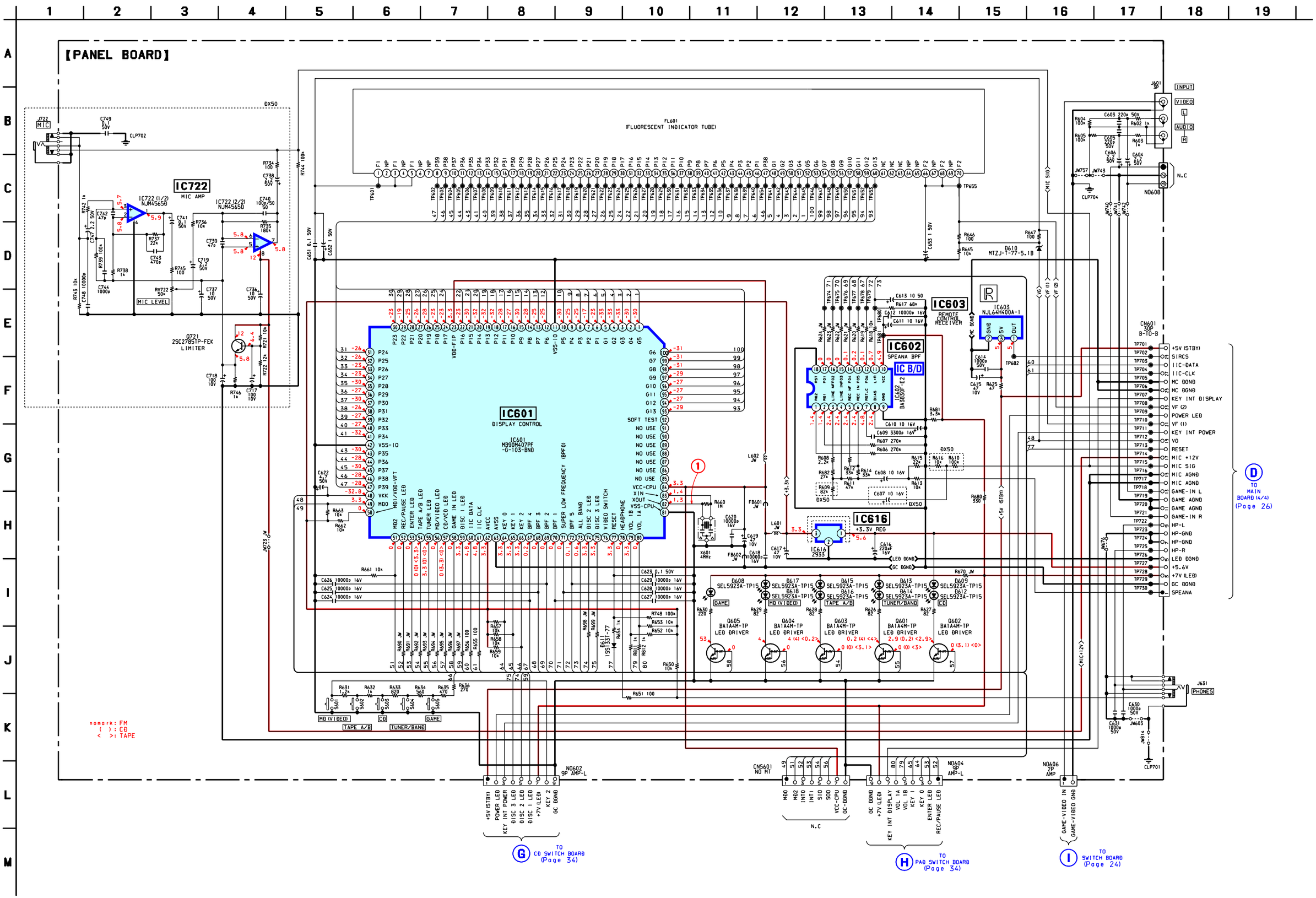


• **Semiconductor Location**

Ref. No.	Location
D501	A-6
D502	A-4
D543	E-2
D551	A-6
D581	E-4
D941	B-2
IC501	D-6
Q501	B-4
Q503	F-1
Q504	F-1
Q505	F-4
Q506	F-5
Q551	B-6
Q581	E-5
Q831	F-4
Q941	B-2

6-12. SCHEMATIC DIAGRAM PANEL SECTION

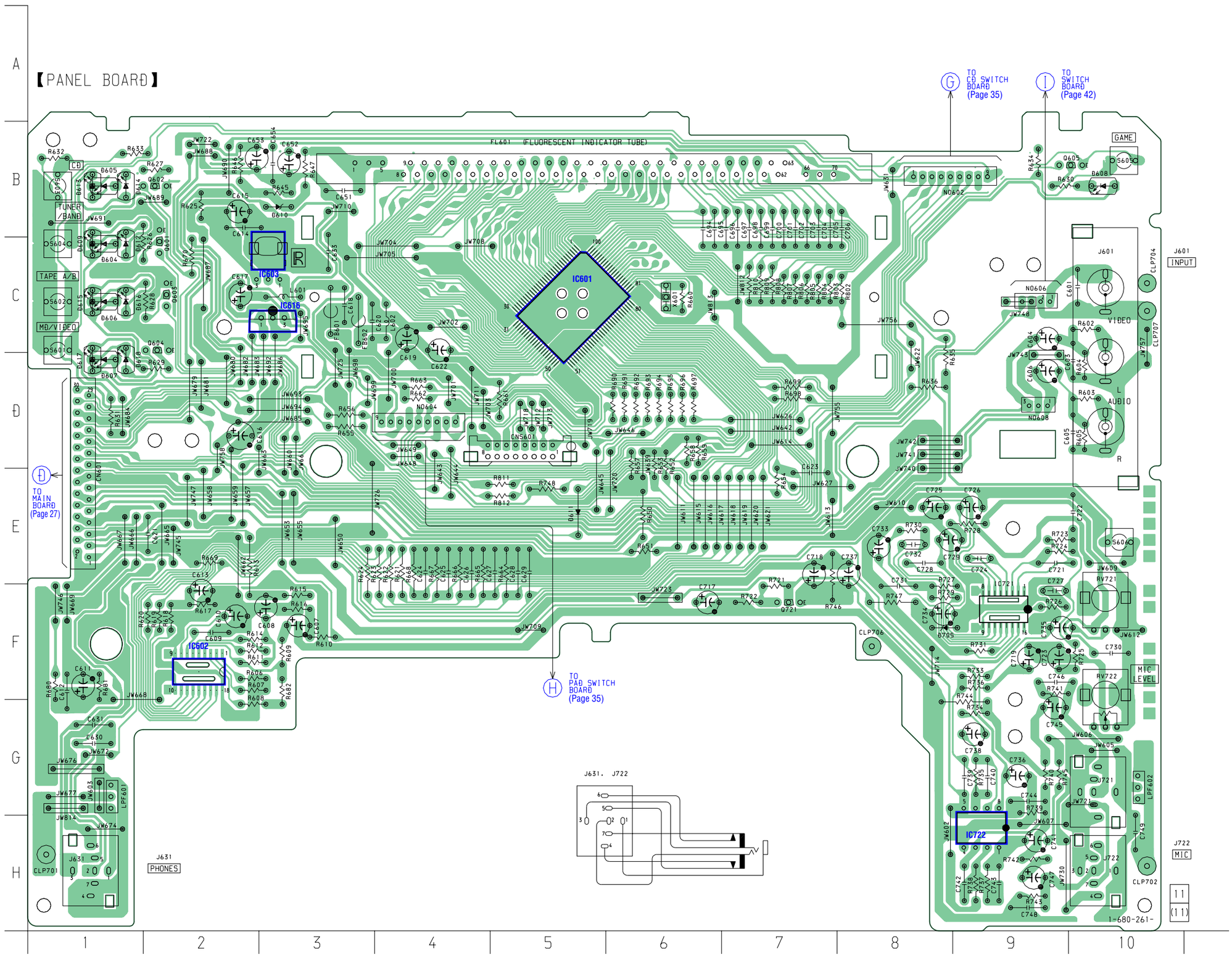
- See page 20 for Waveforms.
- See page 44 for IC Pin Function Description.
- See page 46 for IC Block Diagrams.



6-13. PRINTED WIRING BOARD PANEL SECTION

• See page 20 for Circuit Boards Location.

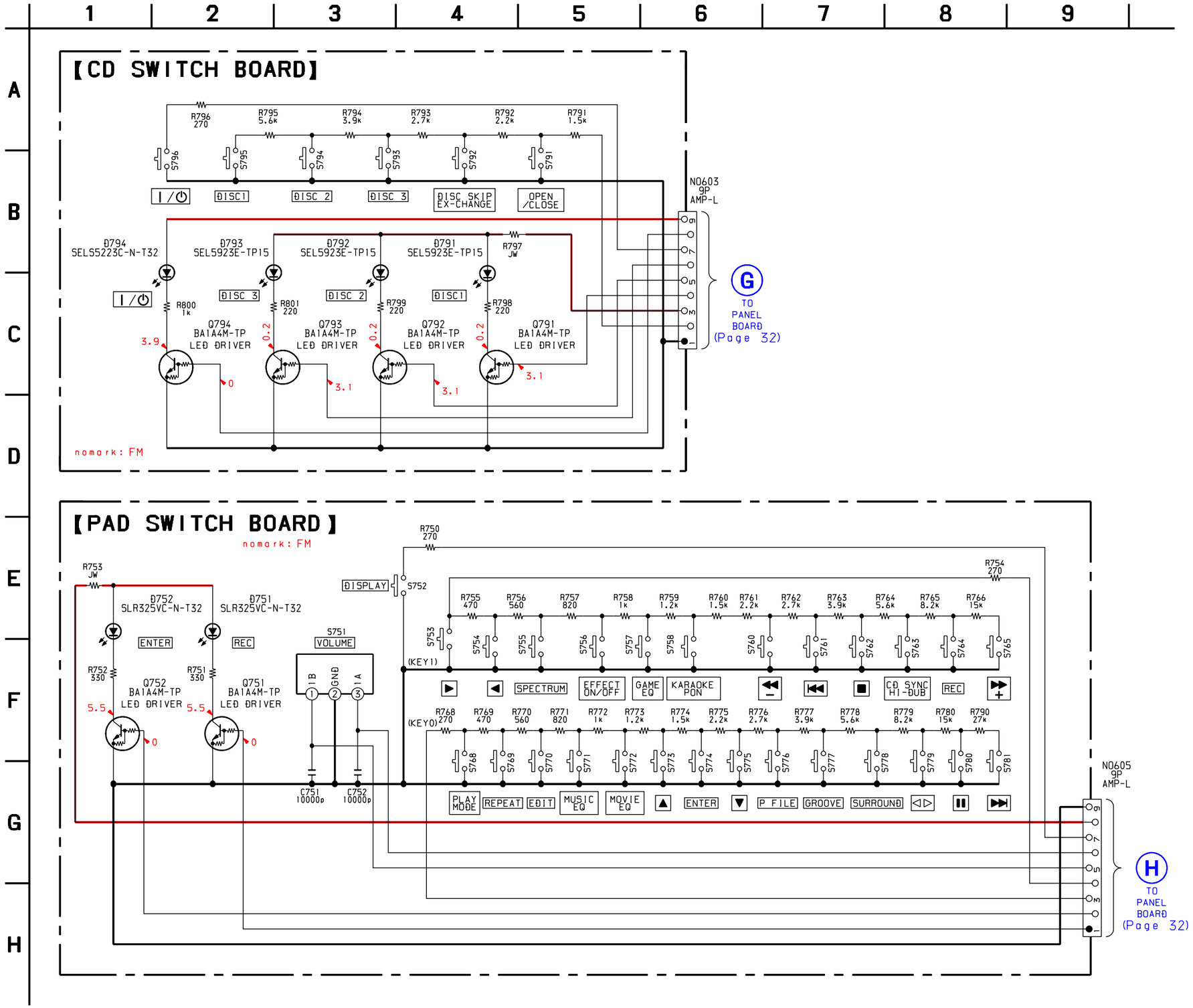
There are a few cases that the part printed on this diagram isn't mounted in this model.



• **Semiconductor Location**

Ref. No.	Location
D608	B-10
D609	C-1
D610	B-3
D611	E-5
D612	C-1
D613	B-1
D614	B-1
D615	C-1
D616	C-1
D617	D-1
D618	D-1
IC601	C-5
IC602	F-2
IC603	C-3
IC616	C-3
IC722	H-9
Q601	C-2
Q602	B-2
Q603	C-2
Q604	C-2
Q605	B-9
Q721	F-7

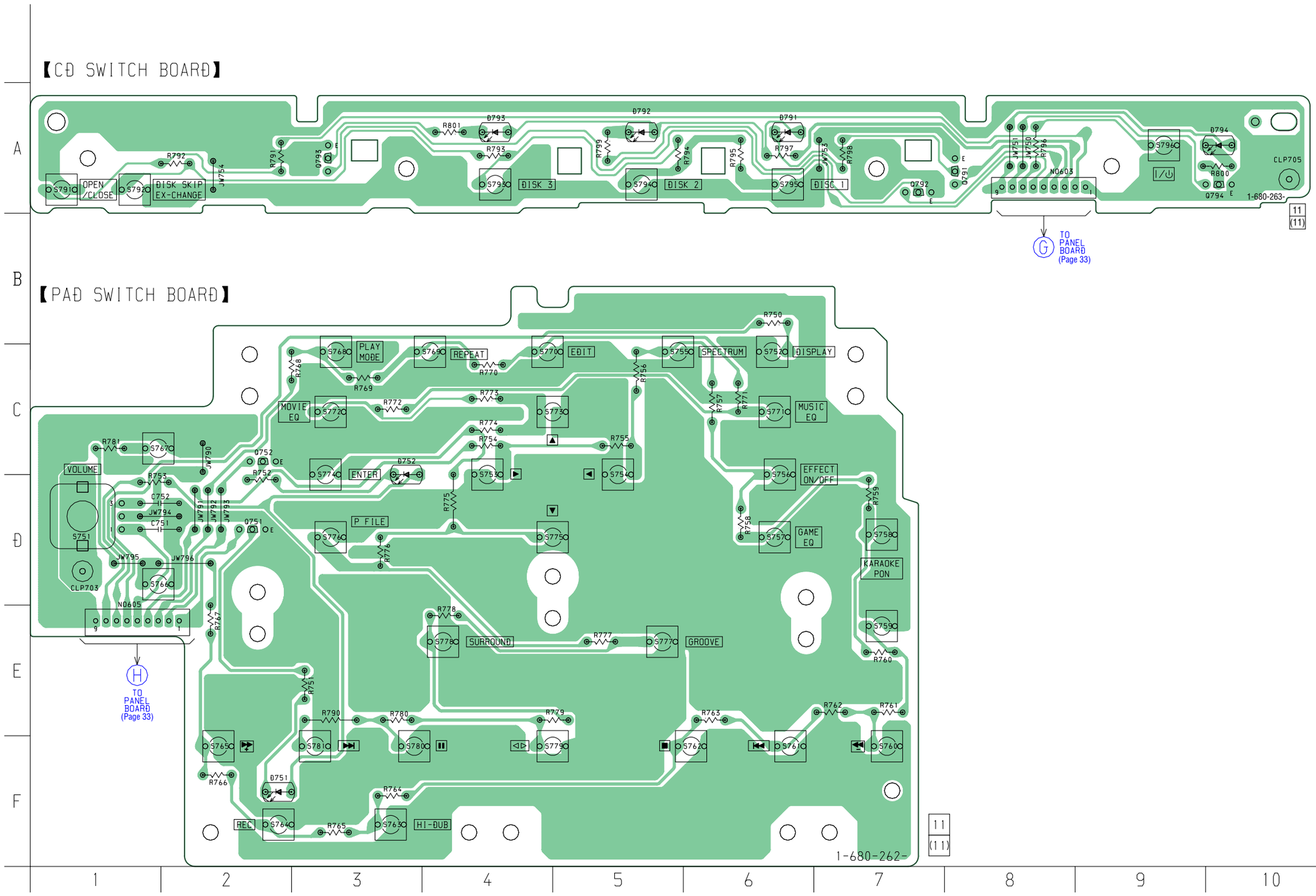
6-14. SCHEMATIC DIAGRAM PANEL SWITCH SECTION



6-15. PRINTED WIRING BOARD PANEL SWITCH SECTION

• See page 20 for Circuit Boards Location.

There are a few cases that the part printed on this diagram isn't mounted in this model.



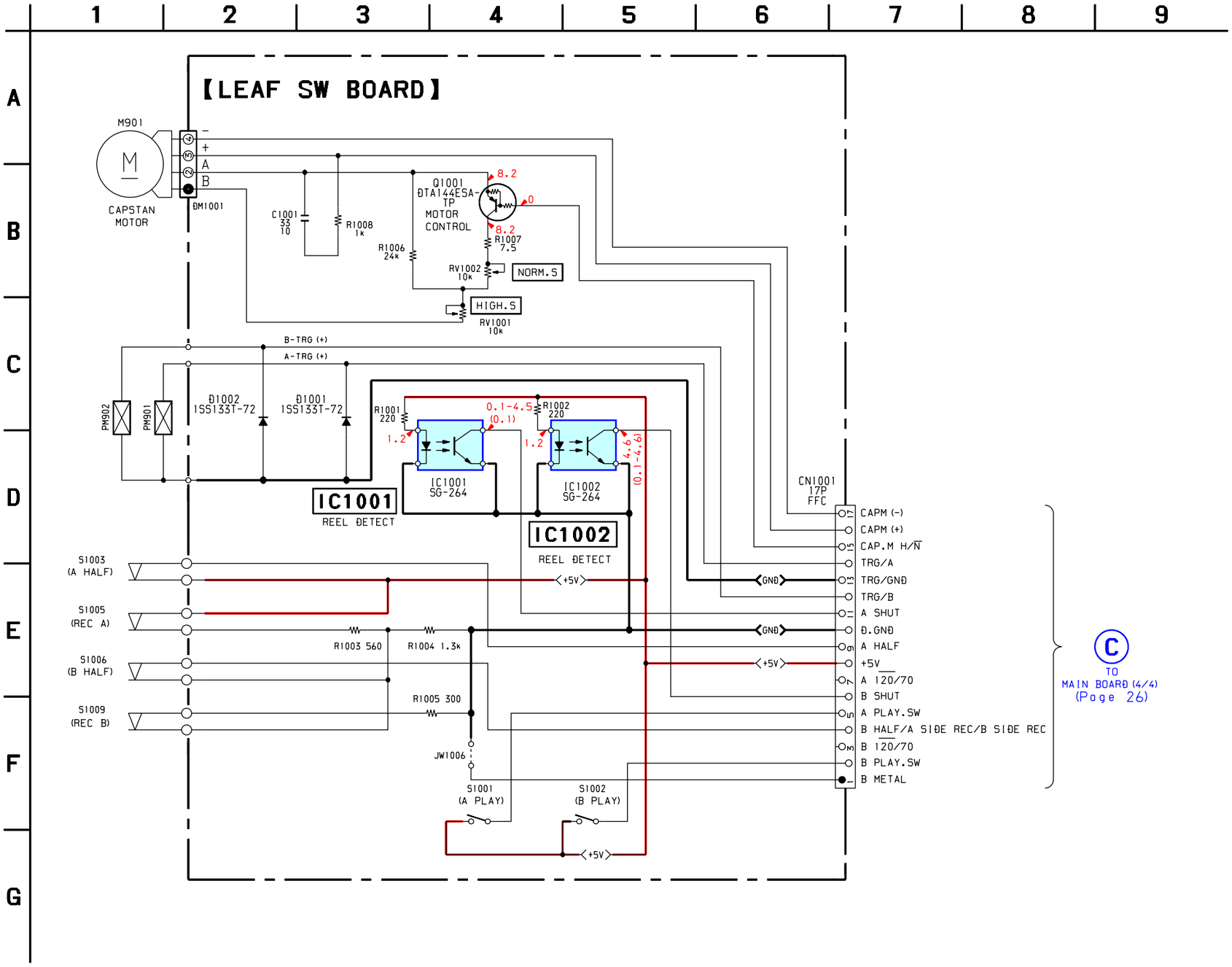
• **Semiconductor Location**

Ref. No.	Location
D751	F-2
D752	C-3
D791	A-6
D792	A-5
D793	A-4
D794	A-10
Q751	D-2
Q752	C-2
Q791	A-8
Q792	A-7
Q793	A-3
Q794	A-10

6-16. SCHEMATIC DIAGRAM LEAF SW SECTION

• See page 20 for Waveforms.
• See page 45 for IC Block Diagrams.

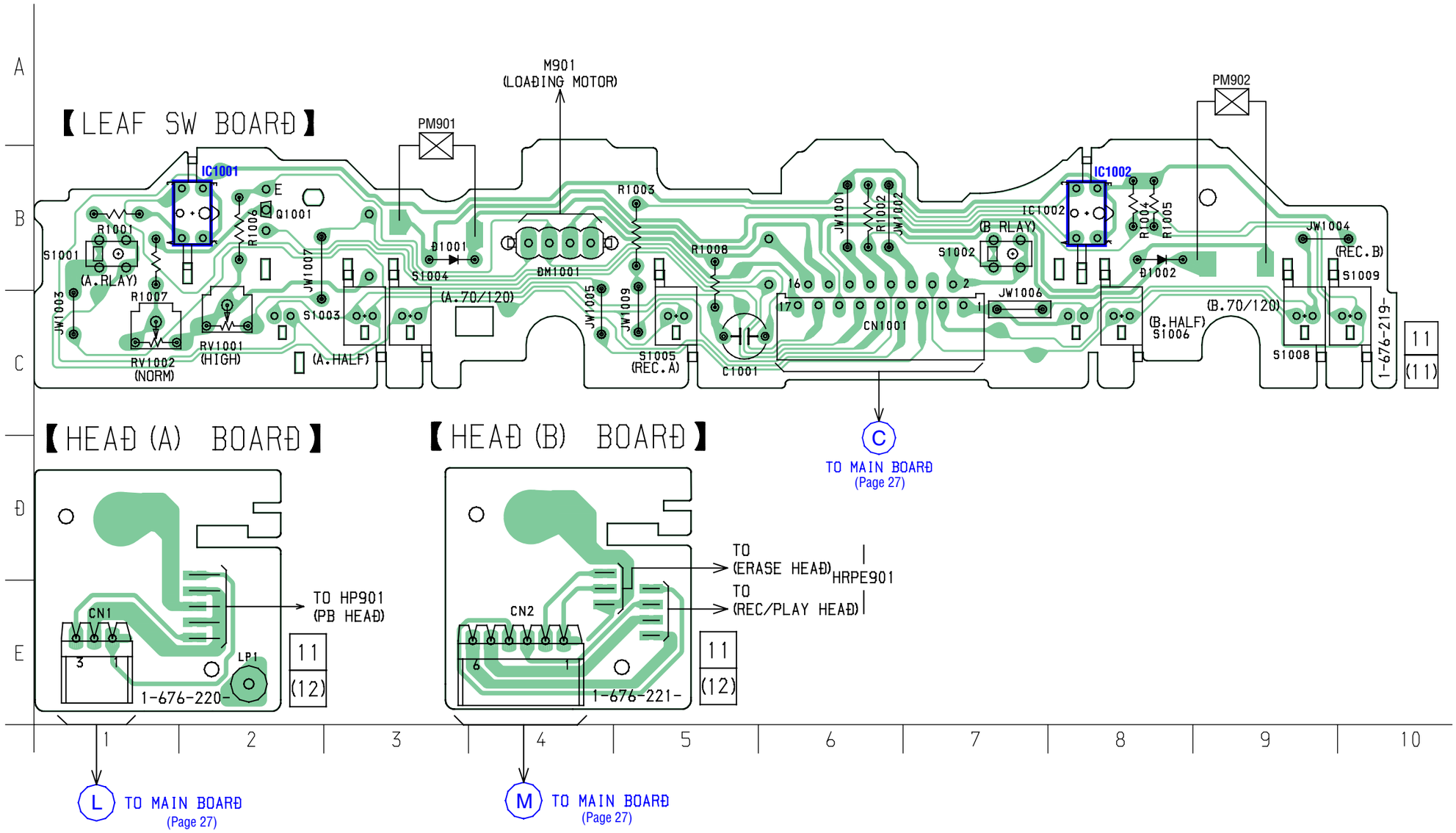
There are a few cases that the part printed on this diagram isn't mounted in this model.



6-17. PRINTED WIRING BOARD LEAF SW SECTION

• See page 20 for Circuit Boards Location.
• See page 25 for Schematic Diagram of Head Board.

There are a few cases that the part printed on this diagram isn't mounted in this model.

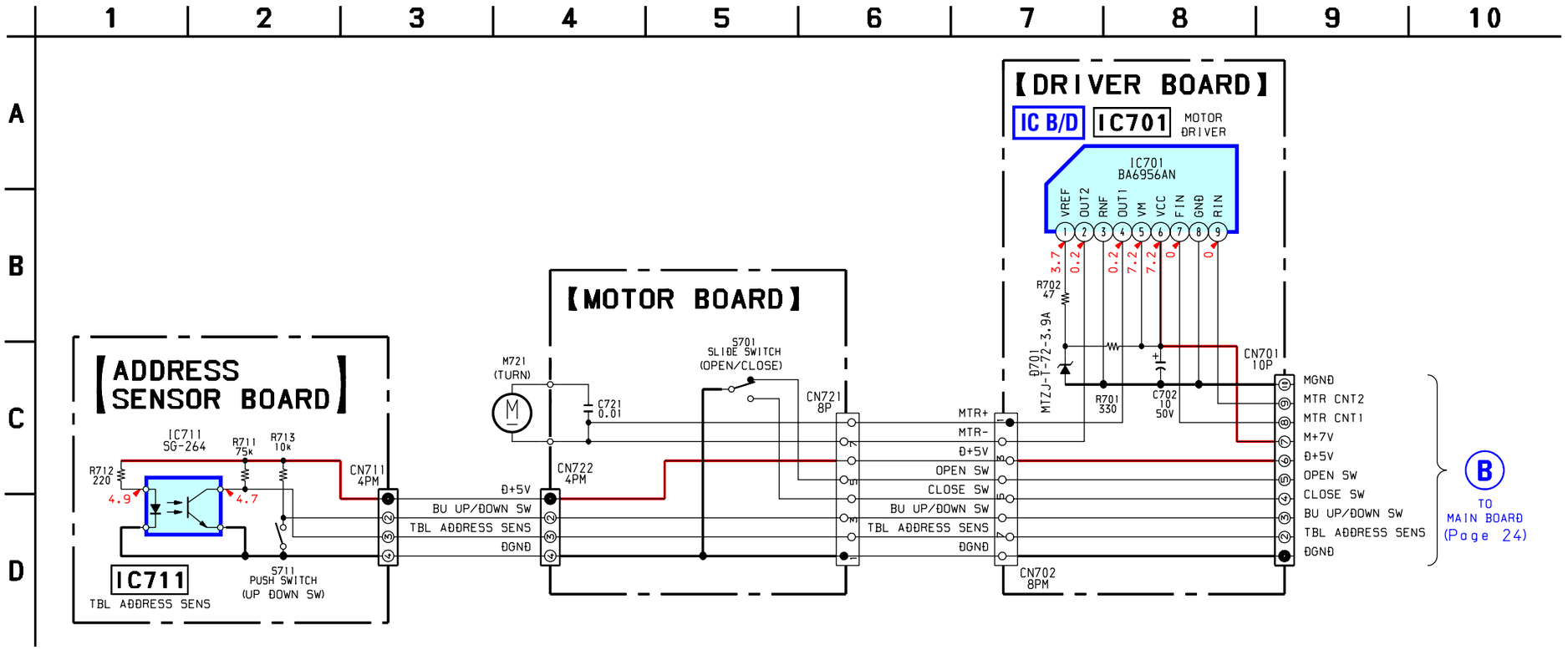


• **Semiconductor Location**

Ref. No.	Location
D1001	B-4
D1002	B-8
IC1001	B-2
IC1002	B-8
Q1001	B-2

6-18. SCHEMATIC DIAGRAM DRIVER SECTION

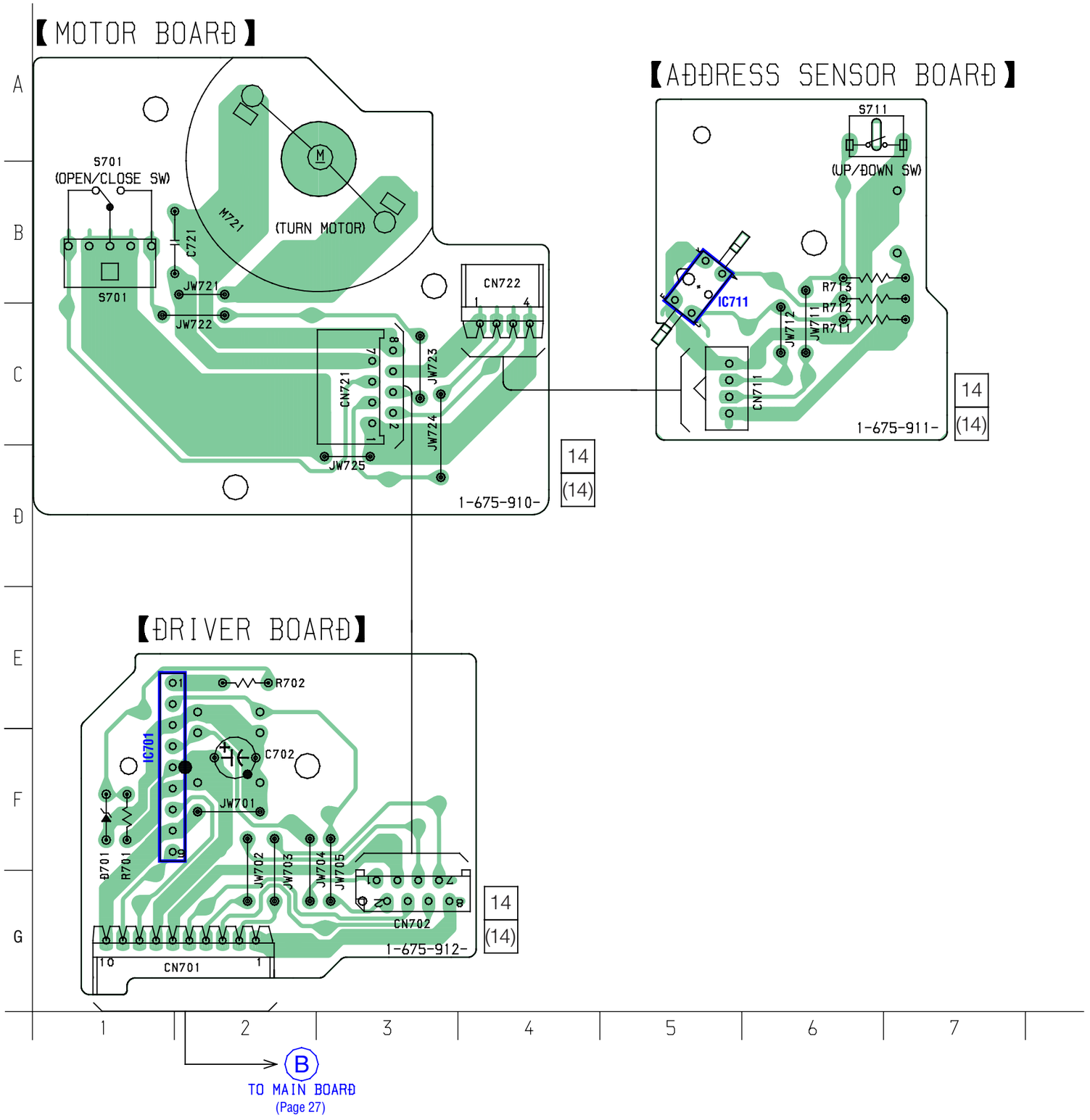
• See page 46 for IC Block Diagrams.



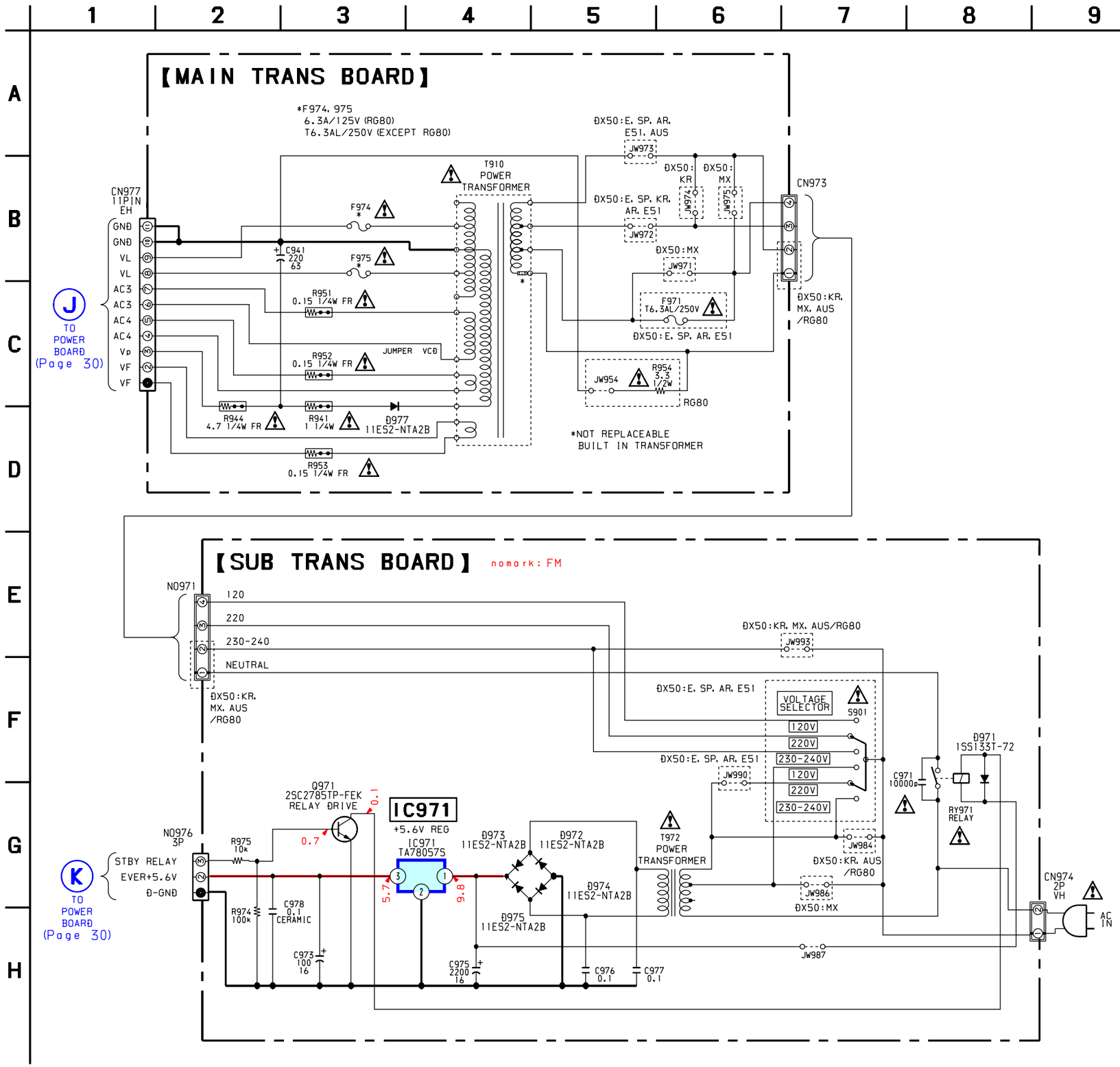
6-19. PRINTED WIRING BOARD DRIVER SECTION

• See page 20 for Circuit Boards Location.

There are a few cases that the part printed on this diagram isn't mounted in this model.



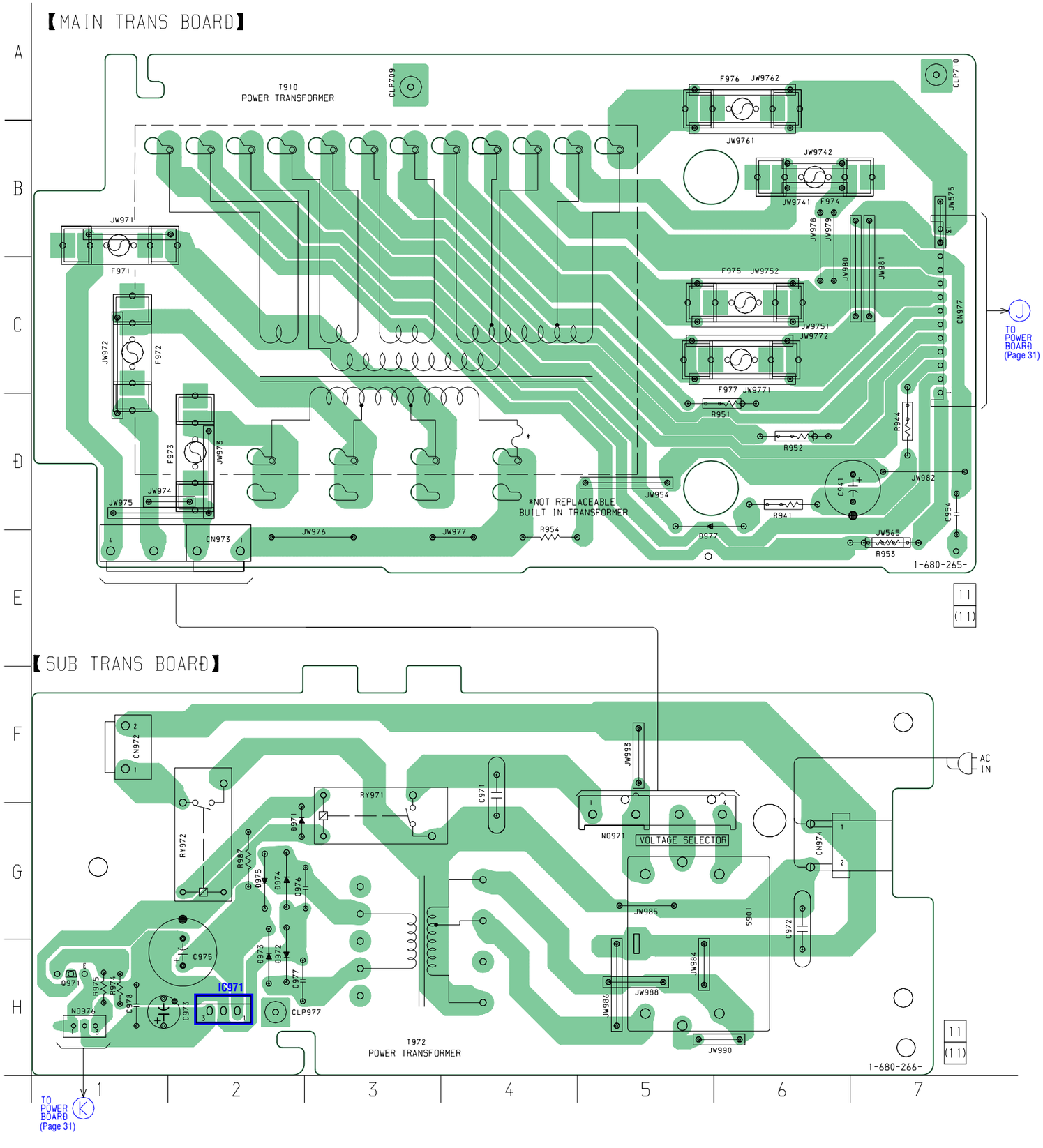
6-20. SCHEMATIC DIAGRAM TRANS SECTION



6-21. PRINTED WIRING BOARD TRANS SECTION

• See page 20 for Circuit Boards Location.

There are a few cases that the part printed on this diagram isn't mounted in this model.



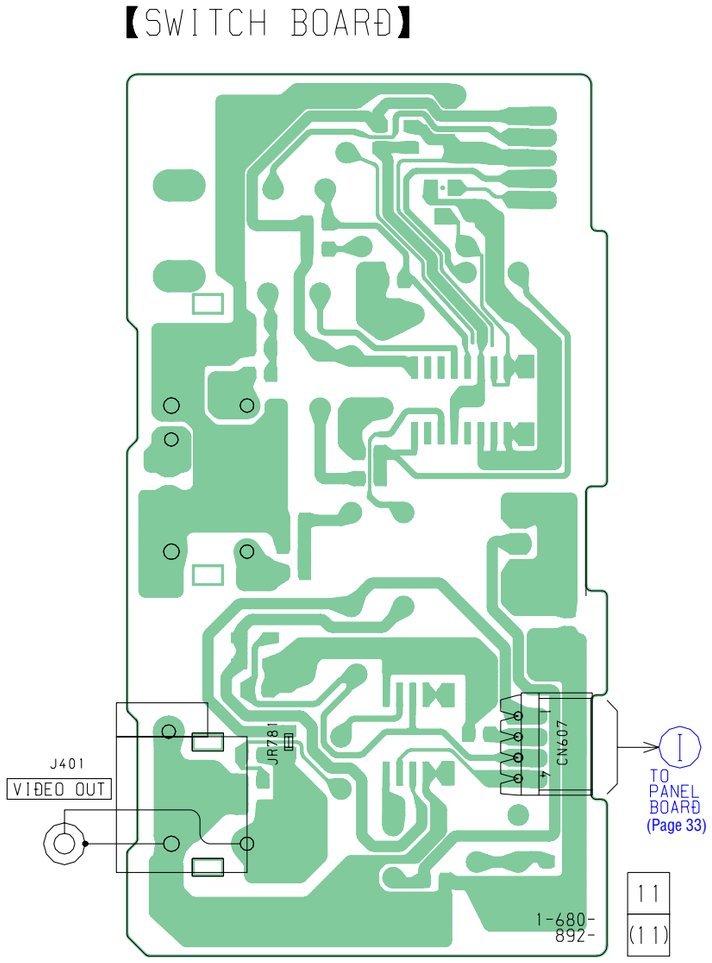
• **Semiconductor Location**

Ref. No.	Location
D971	G-2
D972	H-2
D973	H-2
D974	G-2
D975	G-2
D977	D-5
IC971	H-2
Q971	H-1

6-22. PRINTED WIRING BOARD SWITCH SECTION

• See page 20 for Circuit Boards Location.

There are a few cases that the part printed on this diagram isn't mounted in this model.



6-23. IC PIN FUNCTION DESCRIPTION

• IC501 M30620MCA-A95FP (MASTER CONTROL) (MAIN BOARD)

Pin No.	Pin Name	I/O	Description
1	AUDIO-OUT	O	Audio out ON/OFF signal (H=ON,L=OFF)
2	STEREO	I	STEREO detect signal input (L=ON,H=OFF)
3	TUNED	I	TUNED detect signal input (L=ON,H=OFF)
4	SIRCS	I	Remote control receiver data signal input
5	SUR1	O	Not used
6	SUR2	O	Not used
7	SUR3	O	Not used
8	N.C.	—	Connected to ground
9	N.C.	—	Connected to ground
10	XC-IN	I	Sub clock input
11	XC-OUT	O	Sub clock output
12	RESET	I	System reset input
13	X-OUT	O	Main system clock output
14	VSS	—	Ground
15	X-IN	I	Main system clock input
16	VCC	—	Power supply (+5V)
17	NMI	I	Not used (connected to Vcc)
18	RDS-INT	I	RDS interrupt signal input
19	SCOR	I	CD Q-data signal input
20	RDS-DATA	I	RDS data signal input
21	ST-MUTING	O	Tuner muting signal output
22	ST-CE	O	Tuner chip enable output
23	ST-DOUT	O	Tuner data signal output
24	BU-PWM3	O	BU PWM signal output
25	ST-DIN	I	Tuner data signal input
26	BU-PWM2	O	BU PWM signal output
27	ST-CLK	O	Tuner clock signal output
28	BU-PWM1	O	BU PWM signal output
29	IIC CLK	O	IIC CLS output
30	IIC DATA	O	IIC SDA output
31	N.C.	—	Not used
32	SQ-DATA	I	CD SQ data input
33	SQ-CLK	O	CD SQ clock output
34	SENS	I	BD condition signal input
35	CD-DATA	O	CD data signal output
36	N.C.	—	Not used (connected to ground)
37	CD-CLK	O	CD clock signal output
38	CD-POWER	O	CD power control signal output (H=ON,L=OFF)
39	CLOCK-OUT	O	Test point (clock check)
40	HOLD	O	MODE signal output
41	M-RESET	O	Display control IC reset signal output
42	XLT	O	CD LAT signal output
43	XRST	O	CD reset sgnal output
44	LOAD-IN	O	Loading motor control signal output
45	LOAD-OUT	O	Loading motor control signal output
46	OPEN-SW	I	Tray open detect signal input
47	CLOSE-SW	I	Tray close detect signal input
48	BU UP/DOWN-SW	I	Pick-up up/down detect signal input
49	T-SENS	I	CD table detect signal input
50	N.C.	I	Not used (connected to ground)

42

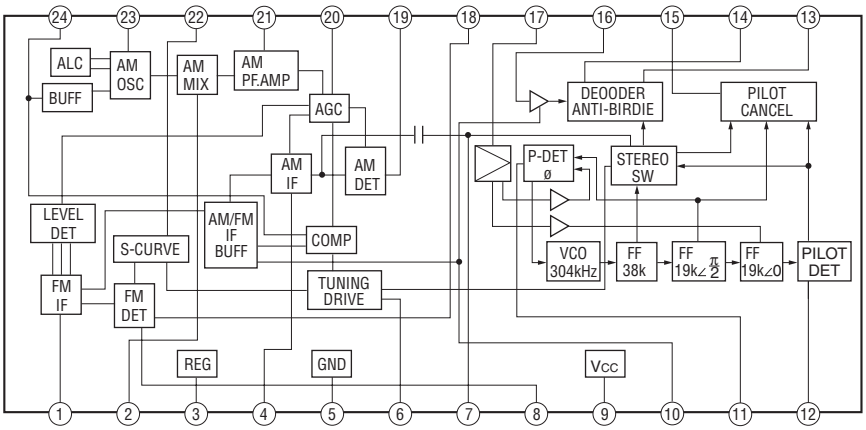
Pin No.	Pin Name	I/O	Description
51	A-TRG	O	A deck trigger control signal output
52	B-TRIG	O	B deck trigger control signal output
53	AMS-IN	I	AMS signal input (L=ON,H=OFF)
54	CAPM-H/L	O	Capstan motor High/Low speed control signal output
55	CAPM-CONTROL	O	Capstan motor REV/FWD/STOP control signal output
56	A-PLAY	I	A deck play detect signal input
57	B-PLAY	I	B deck play detect signal input
58	TC-MUTING	O	Tape deck line muting signal output (H=ON,L=OFF)
59	REC/PB/PAS	I	REC/PB/PAS select signal input (L=REC,Z=PB,H=PAS)
60	NR-ON/OFF	O	DOLBY NR ON/OFF signal output (H=ON,L=OFF)
61	REC-MUTING	O	REC MUTING ON/OFF signal output (L=ON,H=OFF)
62	VCC	—	Power supply (+5V)
63	SOFT-TEST	O	Test point (soft check out)
64	VSS	—	Ground
65	BIAS	O	BIAS ON/OFF signal output (H=ON,L=OFF)
66	EQ-H/N	O	EQ High/Normal select signal output (H=High,L=Normal)
67	PB-A/B	O	Playback deck A/B select signal output (L=A,H=B)
68	ALC	O	ALC ON/OFF signal output (L=ON,H=OFF)
69	TC-RELAY	O	Tape deck relay ON/OFF signal output (H=ON,L=OFF)
70	A-HALF	I	A deck half detect signal input
71	N.C.	—	Not used (connected to ground)
72	N.C.	—	Not used (connected to ground)
73	DISPLAY KEY	I	Display key detect signal input
74	POWER KEY	I	Power key detect signal input
75	STBY LED	O	Standby LED ON/OFF signal output (H=ON,L=OFF)
76	N.C.	—	Not used (connected to ground)
77	N.C.	—	Not used (connected to ground)
78	GAME/VIDEO	O	GAME/VIDEO select signal output (L=GAME,H=VIDEO)
79	DBFB	O	DBFB ON/OFF signal output (L=ON,H=OFF)
80	GEQ-DATA	O	Data signal output for IC101
81	GEQ CLK	O	Clock signal output for IC101
82	LINE-MUTING	O	LINE muting ON/OFF signal output (H=ON,L=OFF)
83	STK-MUTING	O	Power amplifier ON/OFF signal output (H=ON,L=OFF)
84	STBY-RELAY	O	Standby relay ON/OFF signal output
85	REAR-RELAY	O	Not used
86	SURR-RELAY	O	Not used
87	FRONT-RELAY	O	Front speaker relay ON/OFF signal output (H=ON,L=OFF)
88	PROTECT	I	Speaker protect ON/OFF signal input (L=ON,H=OFF)
89	A-SHUT	I	A deck reel pulse signal input
90	B-SHUT	I	B deck reel pulse signal input
91	B-HALF	I	B deck half detect signal input
92	MODEL-IN	I	MODEL input
93	SPEC-IN	I	Version select input
94	FREQ-B	O	Not used
95	FREQ-A	O	Not used
96	AVSS	—	Analog ground
97	BOOSTER-SW	I	Not used
98	VREF	—	Analog reference voltage
99	AVCC	—	Analog power supply
100	AC-CUT	I	AC_CUT ON/OFF check (L=ON,H=OFF)

• IC601 MB90M407PF-G-103-BND (DISPLAY CONTROL) (PANEL BOARD)

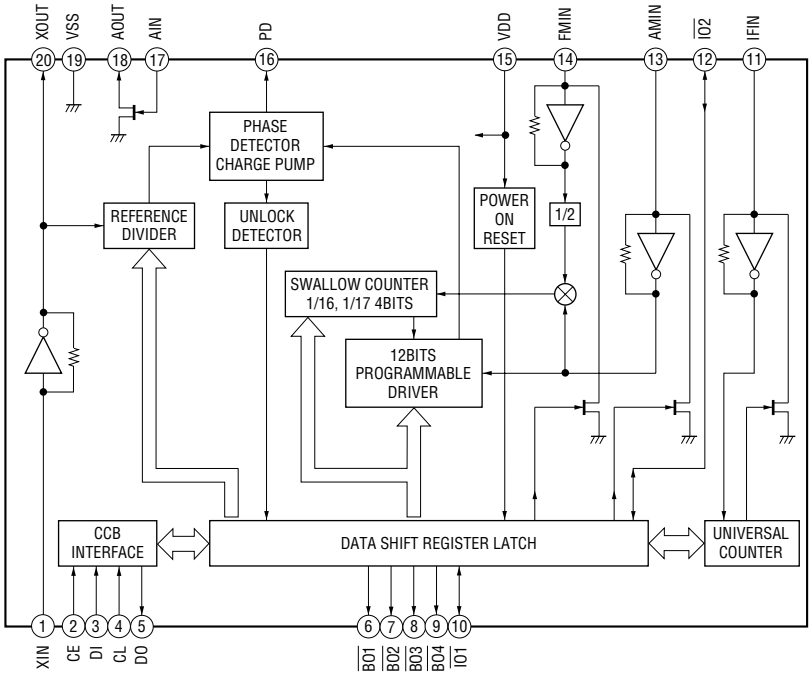
Pin No.	Pin Name	I/O	Description
1 - 5	G5-1	O	FL grid signal output
6 - 10	P1-5	O	FL segment signal output
11	VSS-IO	—	Ground for I/O port
12 - 22	P6-16	O	FL segment signal output
23	VDD-FIP	—	Power supply for FL tube
24 - 42	P17-35	O	FL segment signal output
43	VSS-IO	—	Ground for I/O port
44 - 47	P36-39	O	FL segment signal output
48	VKK	—	-30V for FL tube
49	MD0	I	Micom operation mode (10k pull-up)
50	MD1/VDD-VFT	I	Micom operation mode
51	MD2	I	Micom operation mode (10k pull-down)
52	REC/PAUSE LED	O	REC/PAUSE LED control signal output
53	ENTER LED	O	ENTER LED control signal output
54	TAPE A/B LED	O	TAPE A/B LED control signal output
55	TUNER LED	O	TUNER LED control signal output
56	MD/VIDEO LED	O	MD/VIDEO LED control signal output
57	CD/VCD LED	O	CD/VCD LED control signal output
58	GAME IN LED	O	GAME IN LED control signal output
59	DISC 1 LED	O	DISC 1 LED control signal output
60	IIC DATA	O	IIC DATA signal output
61	IIC CLK	O	IIC CLK signal output
62	AVCC	—	Power supply for A/D
63	AVSS	—	Ground for A/D
64 - 66	KEY0-2	I	Key input (A/D)
67 - 70	BPF4-1	I	BPF input (A/D)
71	BPF0	I	SUPER LOW FREQUENCY (BPF input)
72	BPF5	I	BPF input (A/D)
73	ALL BAND	I	L+R (BPF input)
74	DISC 2 LED	O	DISC 2 LED control signal output
75	DISC 3 LED	O	DISC 3 LED control signal output
76	VIDEO SWITCH	O	Not used
77	RESET	—	Reset signal input
78	HEADPHONE	I	Headphone detect signal input (H=ON,L=OFF)
79	VOL 1B	I	Volume 1B signal input
80	VOL 1A	I	Volume 1A signal input
81	VSS-CPU	—	Ground for CPU
82	X0	—	Oscillator
83	X1	—	Oscillator
84	VCC-CPU	—	Power supply for CPU
85 - 91	N.C.	—	Not used
92	SOFT TEST	O	Not used
93 - 100	G13-6	O	FL grid signal output

6-24. IC BLOCK DIAGRAMS

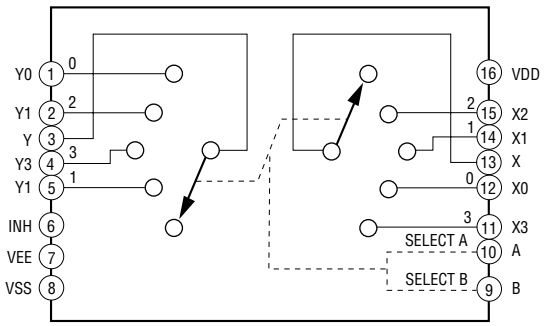
IC11 LA1845 (MAIN BOARD)



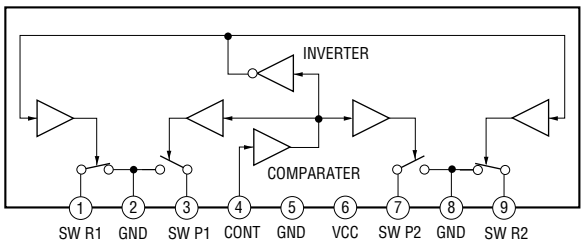
IC51 LC72131 (MAIN BOARD)



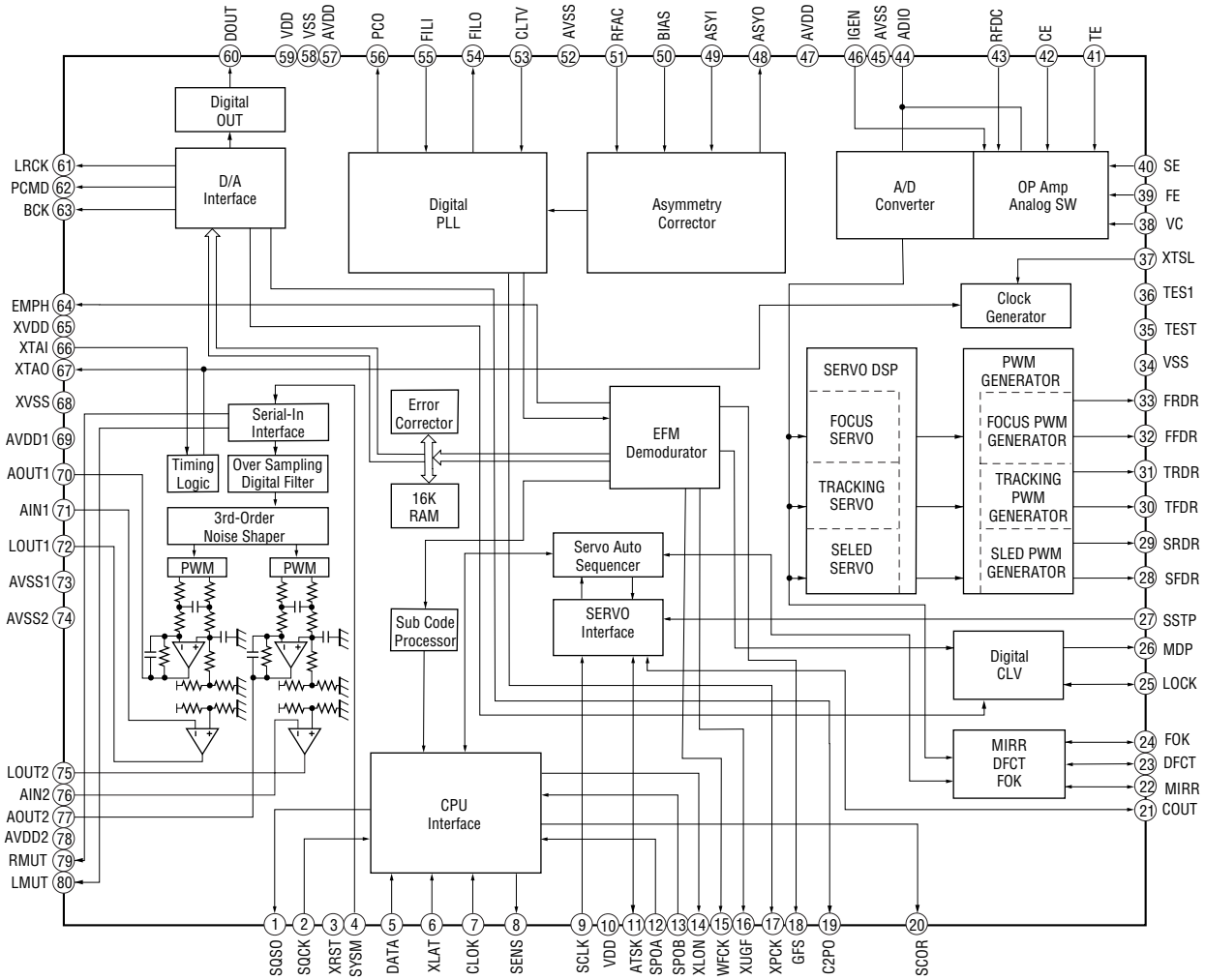
IC105 BU4052BCF-E2 (MAIN BOARD)



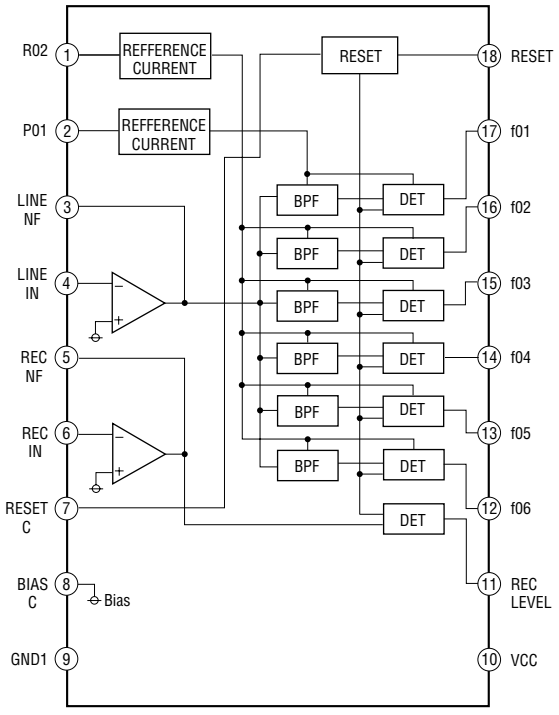
IC302 µPC1330HA (MAIN BOARD)



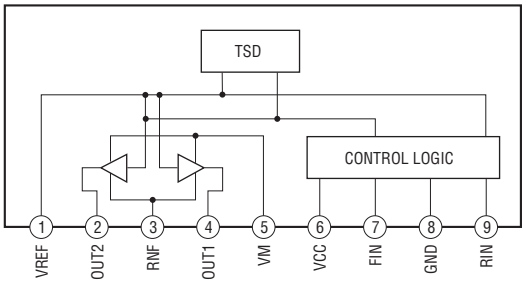
IC101 CXD3017Q (BD BOARD)



IC602 BA3830F-E2 (PANEL BOARD)



IC701 BA6956AN (DRIVER BOARD)



SECTION 7
EXPLODED VIEWS

NOTE:

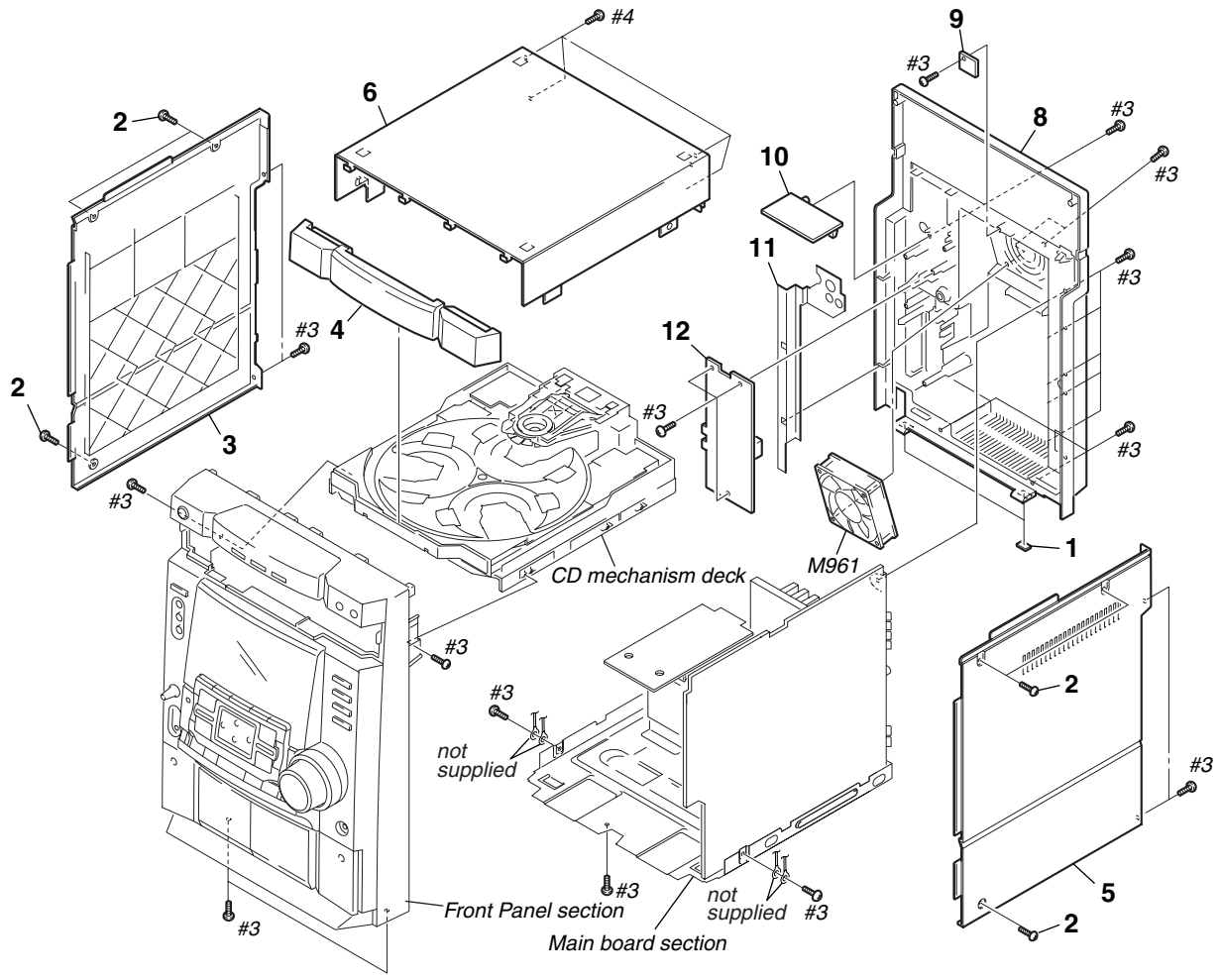
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- Abbreviation
  AR : Argentina model
  AUS : Australian model
  E51 : Chilean and Peruvian model
  KR : Korea model
  MX : Mexican model
  SP : Singapore model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

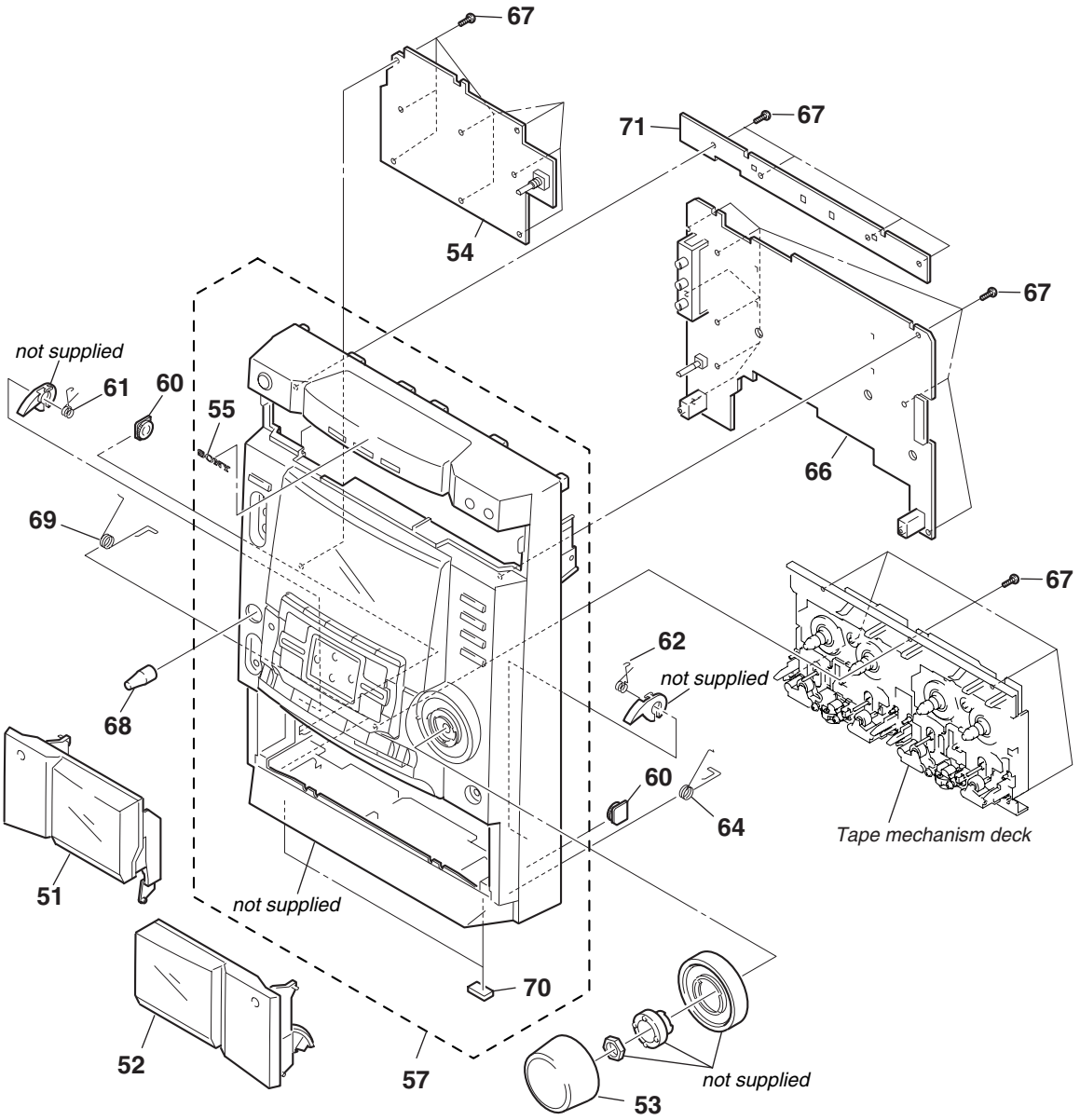
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. CABINET SECTION



Ref. No.	Part No.	Description	Remarks
1	4-225-252-01	CUSHION (FOOT)	
2	3-363-099-41	SCREW (CASE 3 TP2)	
3	4-225-038-22	SIDE PANEL (L)	
4	4-231-563-01	LOADING PANEL (DX50)	
4	4-231-563-61	LOADING PANEL (RG80)	
5	4-225-039-72	SIDE PANEL (R)	
6	4-224-550-01	CASE (TOP)	
8	4-231-580-01	BACK PANEL (DX50:E,SP,AR)	
8	4-231-580-21	BACK PANEL (DX50:,KR,,MX,AUS/RG80)	
9	1-681-143-11	SESOR BOARD	
10	1-680-892-11	SWITCH BOARD	
11	4-233-148-01	GROUND PLATE	
12	A-4475-786-A	SUB TRANS BOARD, COMPLETE (DX50:E,SP,AR)	
12	A-4476-280-A	SUB TRANS BOARD, COMPLETE (DX50:KR,MX,AUS)	
12	A-4476-979-A	SUB TRANS BOARD, COMPLETE (RG80)	
M961	1-763-072-11	FAN, D.C.	
#3	7-685-647-11	SCREW +BVTP 3X10	
#4	7-685-648-11	SCREW +BVTP 3X12	

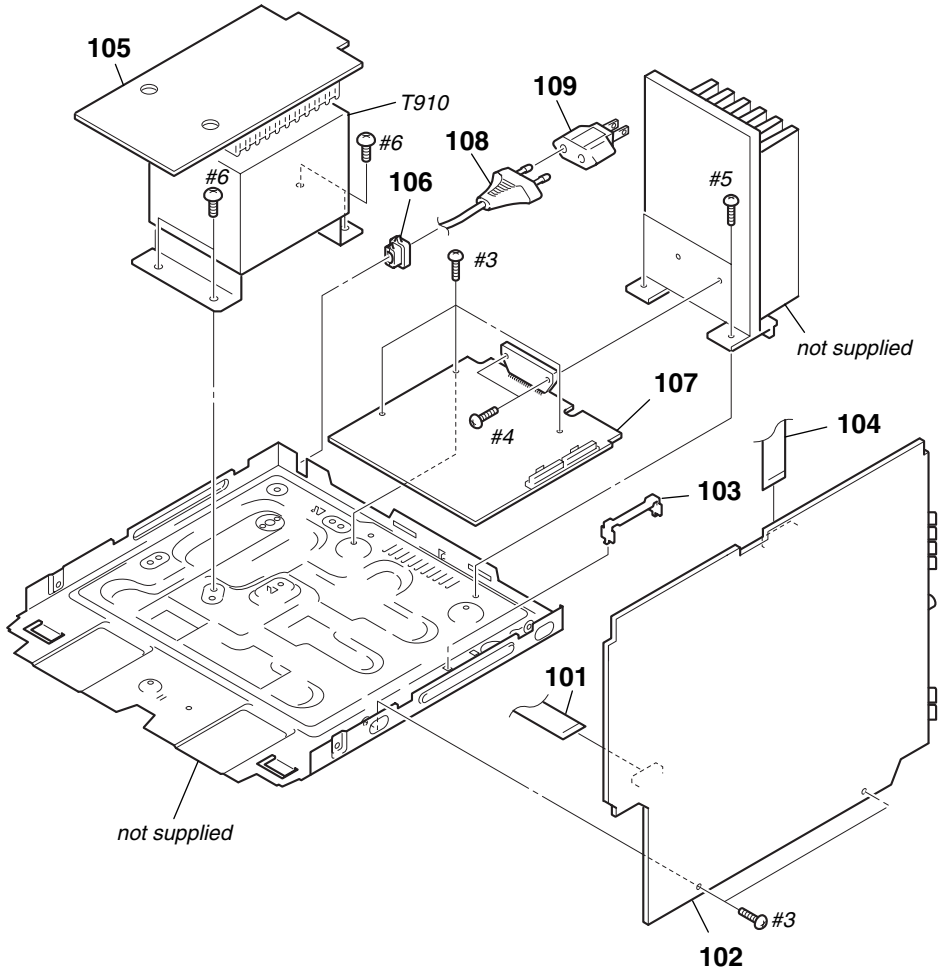
7-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks
51	X-4953-360-1	TC HOLDER (L) ASSY	
52	X-4953-361-1	TC HOLDER (R) ASSY	
53	4-231-571-01	KNOB VOL	
54	A-4475-778-A	PAD SWITCH BOARD, COMPLETE (DX50)	
54	A-4476-977-A	PAD SWITCH BOARD, COMPLETE (RG80)	
55	4-963-404-21	EMBLEM (5-A), SONY	
57	X-4953-359-1	FRONT PANEL ASSY (DX50)	
57	X-4953-795-1	FRONT PANEL ASSY (RG80)	
60	4-224-104-11	DAMPER	
61	4-231-836-01	SPRING (HEART CAM-A)	

Ref. No.	Part No.	Description	Remarks
62	4-231-841-01	SPRING (HEART CAM-B)	
64	4-231-587-01	SPRING R	
66	A-4475-773-A	PANEL BOARD, COMPLETE (DX50)	
66	A-4476-975-A	PANEL BOARD, COMPLETE (RG80)	
67	4-951-620-01	SCREW (2.6X8), +BVTP	
68	4-231-805-01	KNOB (MIC) (DX50)	
69	4-231-586-01	SPRING L	
70	4-225-252-01	CUSHION (FOOT)	
71	1-680-263-11	CD SWITCH BOARD	

7-3. MAIN BOARD SECTION



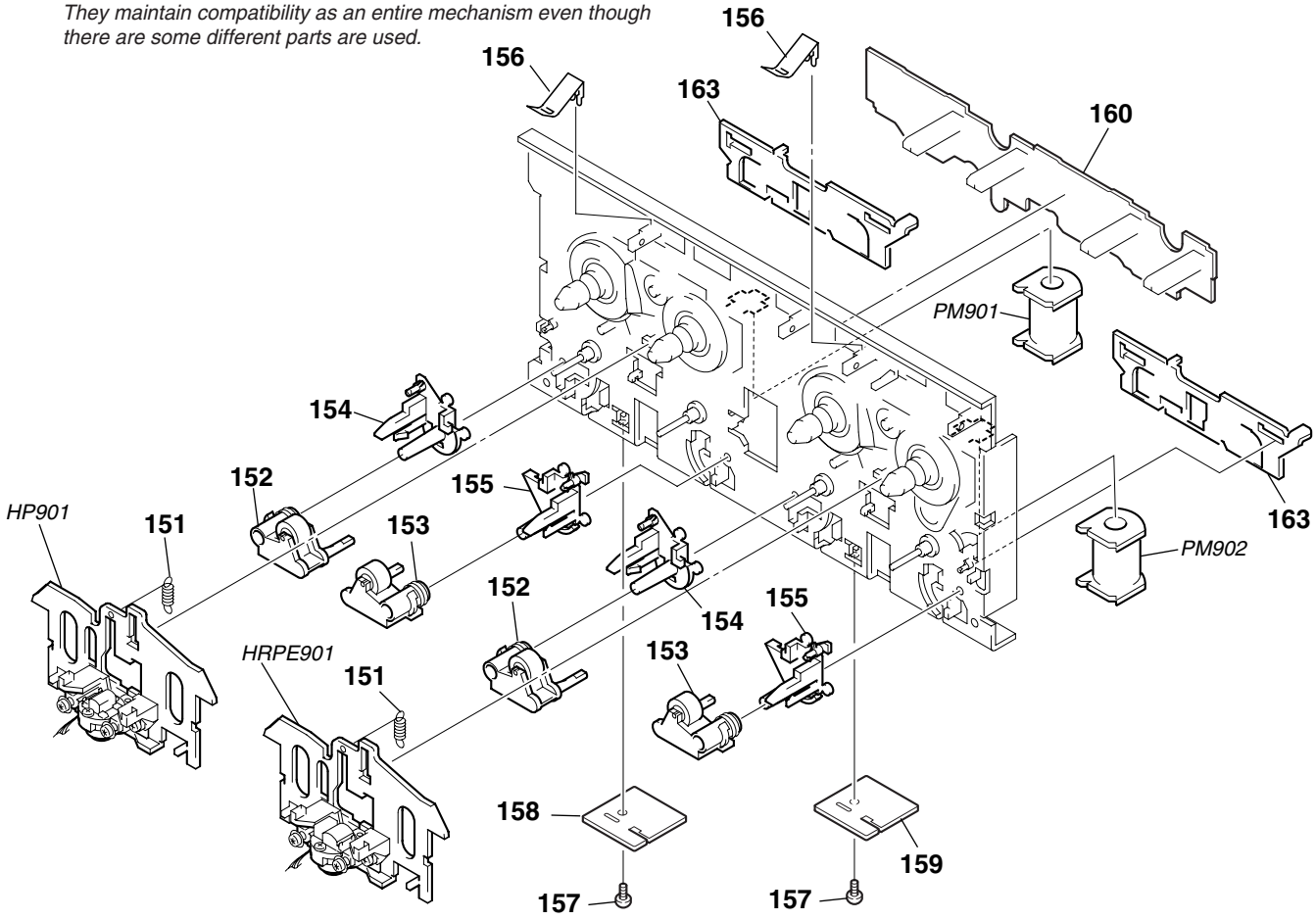
Ref. No.	Part No.	Description	Remarks
101	1-773-045-11	WIRE (FLAT TYPE) (17 CORE)	
102	A-4475-789-A	MAIN BOARD, COMPLETE (DX50:SP,AUS)	
102	A-4476-287-A	MAIN BOARD, COMPLETE (DX50:E)	
102	A-4476-330-A	MAIN BOARD, COMPLETE (DX50:MX,AR)	
102	A-4476-332-A	MAIN BOARD, COMPLETE (DX50:KR)	
102	A-4476-984-A	MAIN BOARD, COMPLETE (RG80)	
* 103	4-988-533-01	HOLDER, PWB	
104	1-757-683-11	CABLE, FLAT (21 CORE)	
105	1-680-265-11	MAIN TRANS BOARD	
106	3-703-244-00	BUSHING (FBS001), CORD	(DX50:SP,KR,AR,E51,AUS)
106	4-966-266-01	BUSHING (S) (FBS002), CORD	(DX50:E,MX/RG80)
106	3-701-513-31	BUSHING (S) (4516) (CND,E,MX)	

Ref. No.	Part No.	Description	Remarks
107	A-4475-781-A	POWER BOARD, COMPLETE (DX50:SP,KR,AUS)	
107	A-4476-324-A	POWER BOARD, COMPLETE (DX50:E,MX,AR)	
107	A-4476-982-A	POWER BOARD, COMPLETE (RG80)	
⚠108	1-696-847-11	CORD, POWER (DX50:AUS)	
⚠108	1-769-079-21	CORD, POWER (DX50:KR)	
⚠108	1-777-071-51	CORD, POWER (DX50:SP,E51)	
⚠108	1-783-941-12	CORD, POWER (DX50:AR)	
⚠108	1-791-901-11	CORD, POWER (DX50:E,MX/RG80)	
⚠109	1-569-008-21	ADAPTOR, CONVERSION (DX50:SP,E51)	
⚠T910	1-435-861-11	POWER TRANSFORMER (DX50)	
⚠T910	1-435-863-11	POWER TRANSFORMER (RG80)	
#4	7-685-650-11	SCREW +BVTP 3X16	
#5	7-685-852-11	SCREW +BVTT 3X8	
#6	7-685-881-11	SCREW +BVTT 4X8	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-4. TAPE MECHANISM DECK SECTION-1 (TCM-230PWR41C)

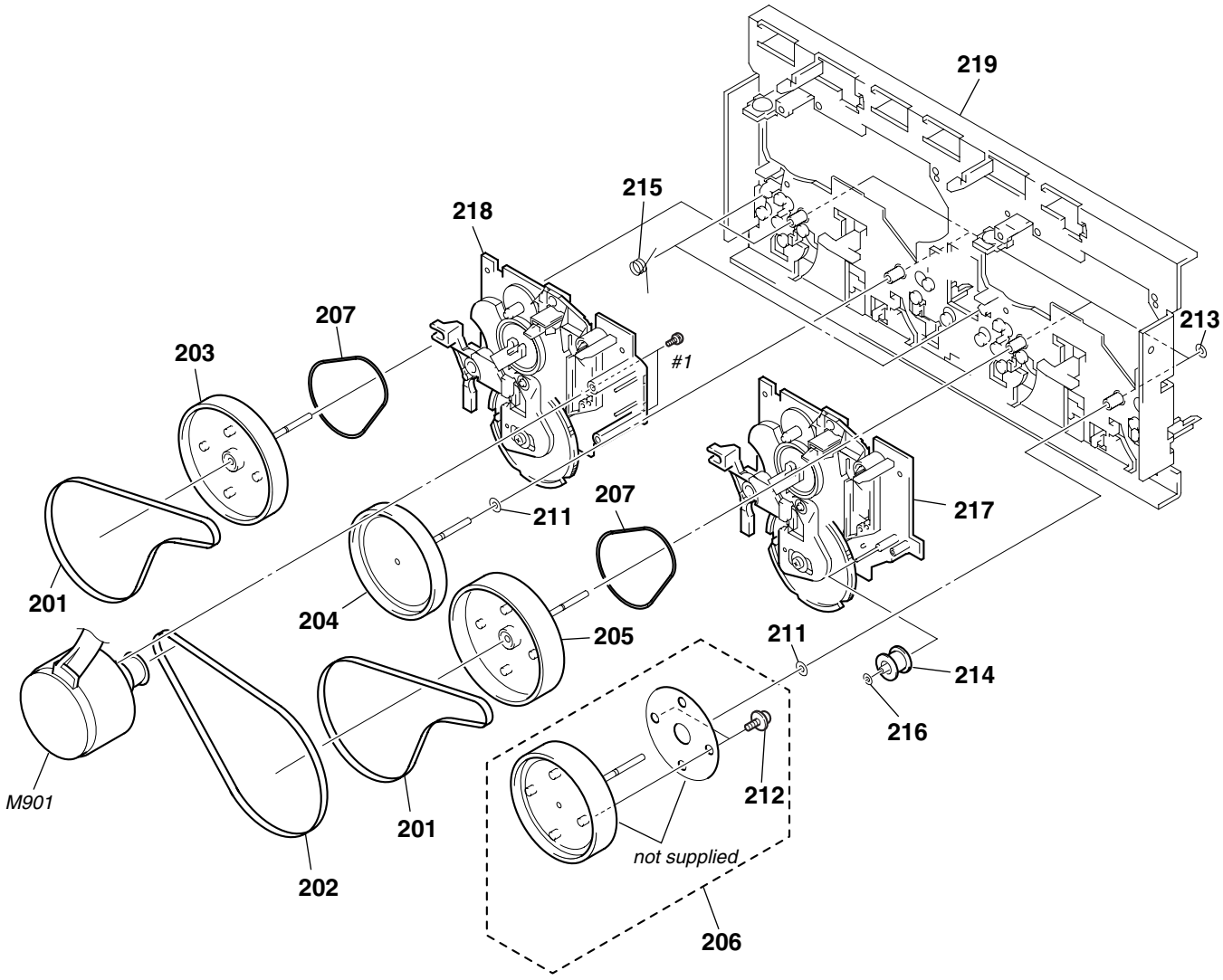
Note: *Two different types of tape mechanism are used depending on models. They maintain compatibility as an entire mechanism even though there are some different parts are used.*



Ref. No.	Part No.	Description	Remarks
151	3-016-574-01	SPRING (HEAD), TENSION	
152	3-017-366-01	BASE (PINCH LEVER REV)	
153	3-017-365-01	BASE (PINCH LEVER FWD)	
154	X-3374-156-1	PINCH LEVER (REV) ASSY	
155	X-3374-155-1	PINCH LEVER (FWD) ASSY	
156	3-016-567-01	SPRING (CASSETTE), LEAF	
157	4-227-872-01	SCREW (+PTT 2X4), GROUND POINT	
158	A-2007-839-A	HEAD (A) BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remarks
159	A-2007-840-A	HEAD (B) BOARD, COMPLETE	
160	A-2007-846-A	LEAF SW BOARD, COMPLETE	
163	3-016-566-01	SLIDER, REVERSE	
HP901	A-2004-765-A	BASE (A) ASSY, HEAD	
HRPE901	A-2004-766-A	BASE (B) ASSY, HEAD	
PM901	1-454-887-11	PLUNGER	
PM902	1-454-887-11	PLUNGER	

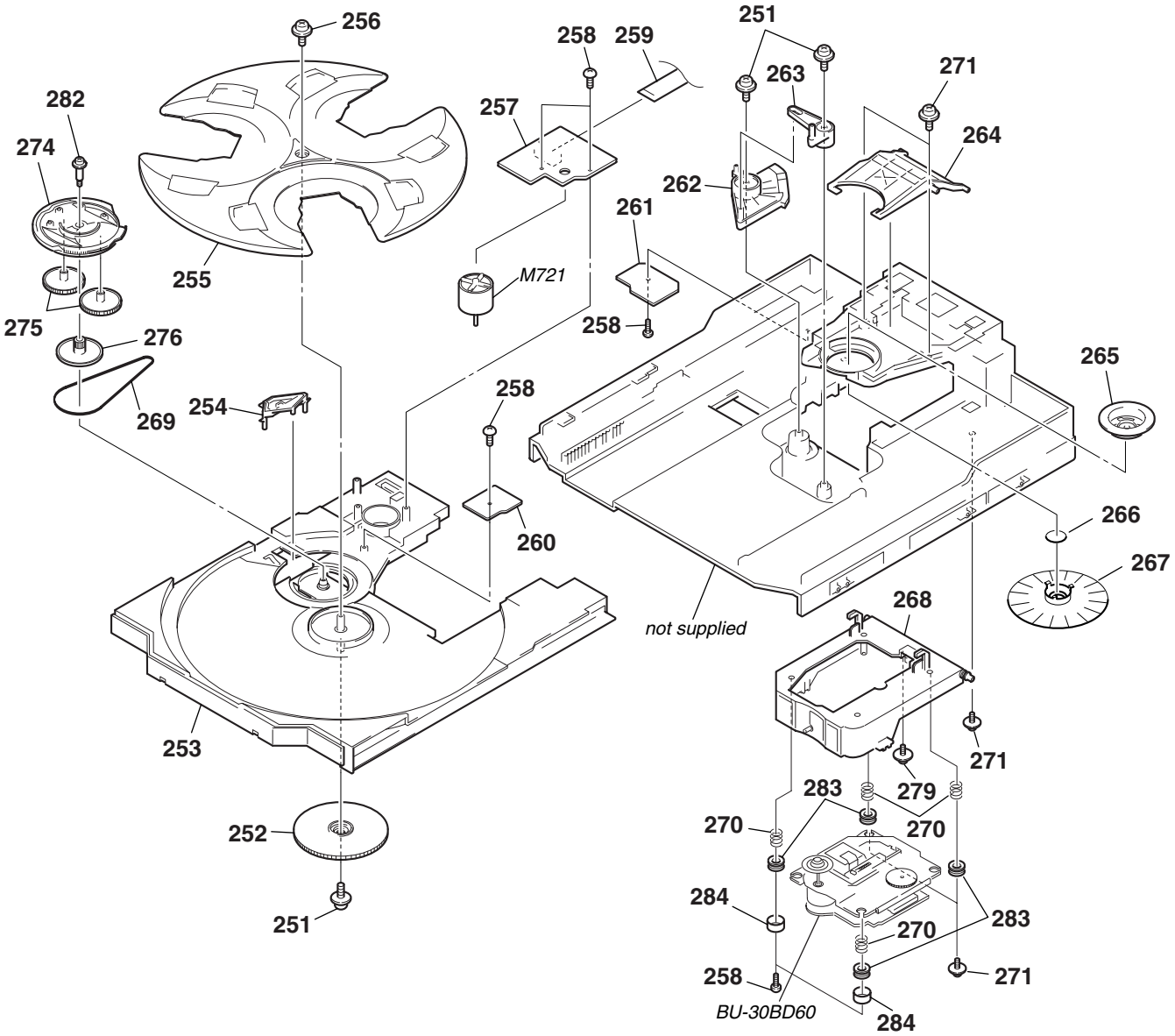
7-5. TAPE MECHANISM DECK SECTION-2 (TCM-230PWR41C)



Ref. No.	Part No.	Description	Remarks
201	3-041-946-01	BELT (CAPSTAN B)	
202	4-227-239-01	BELT (CAPSTAN C)	
203	X-3378-249-1	FLYWHEEL (B-FWD) ASSY	
204	X-3378-250-1	FLYWHEEL (B-REV) ASSY	
205	X-3378-247-1	FLYWHEEL (A-FWD) ASSY	
206	X-3378-248-1	FLYWHEEL (A-REV) ASSY	
207	3-041-947-01	BELT (FR)	
211	3-362-267-01	RING, RETAINING, CAPSTAN	
212	3-318-203-62	SCREW (B1.7X4), TAPPING	
213	3-019-208-01	WASHER, STOPPER	

Ref. No.	Part No.	Description	Remarks
214	3-040-580-11	PULLEY (TENSION)	
215	4-228-450-11	SPRING (REVERS SLIDER), TORSION	
216	3-017-407-01	WASHER (FR LEVER), STOPPER	
217	A-2004-795-A	CHASSIS (A) ASSY, SUB	
218	A-2004-796-A	CHASSIS (B) ASSY, SUB	
219	X-4952-881-1	CHASSIS, MAIN	
M901	X-3378-241-1	MOTOR ASSY(CAPSTAN)	
#1	7-628-254-00	SCREW +PS2.6X5	

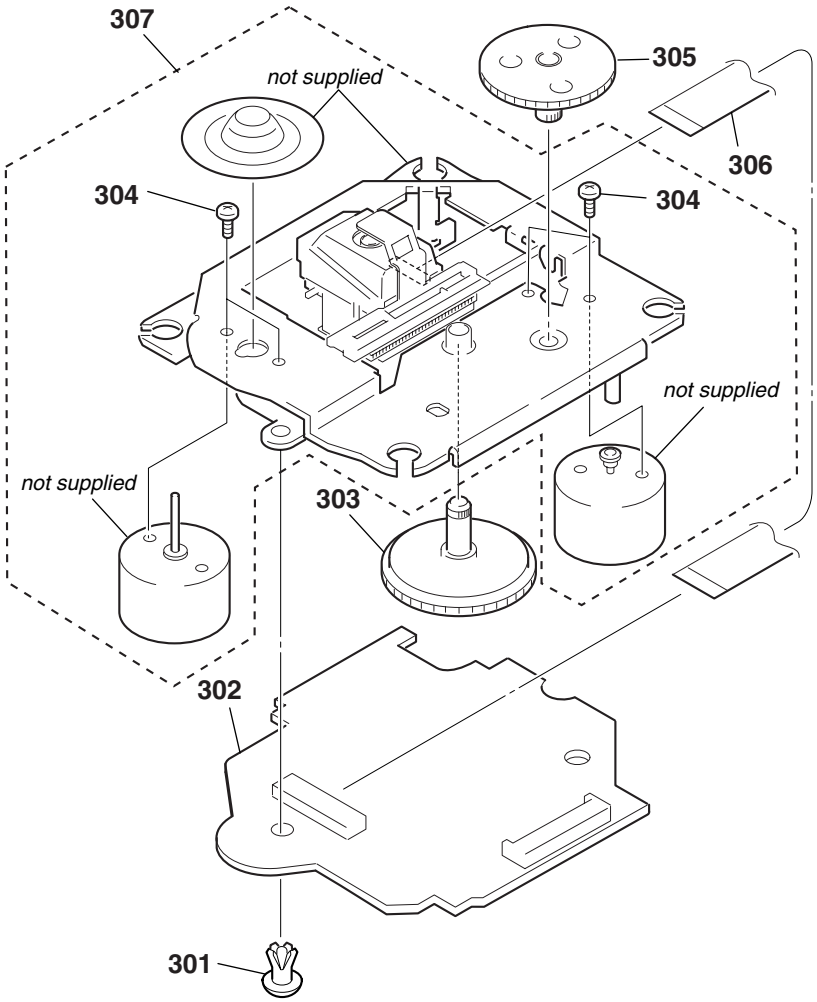
7-6. CD MECHANISM DECK SECTION (CDM58E-30BD60)



Ref. No.	Part No.	Description	Remarks
251	4-933-134-11	SCREW (+PTPWH M2.6X8)	
252	4-221-679-01	CAM (RELAY)	
253	4-231-452-01	TABLE (NEW)	
254	4-221-686-01	LEVER (CHANGE)	
255	4-221-676-01	TRAY	
256	4-933-134-51	SCREW (+PTPWH 2.6X8)	
257	1-675-910-11	MOTOR BOARD	
258	4-951-620-01	SCREW (2.6X8), +BVTP	
259	1-791-983-11	WIRE (FLAT TYPE) (8 CORE)	
260	1-675-911-14	ADDRESS SENSOR BOARD	
261	1-675-912-14	DRIVER BOARD	
262	X-4952-608-1	CAM (U/D) ASSY	
263	4-221-681-01	LEVER (EX)	
264	4-221-682-01	LEVER (LIFTER)	
265	4-231-513-01	PULLEY (B) (BU-30), CHUCKING	

Ref. No.	Part No.	Description	Remarks
266	4-228-414-01	BRACKET (YOKE)	
267	X-4953-307-1	PULLEY (A) ASSY, CHUCKING	
268	X-4953-306-1	HOLDER (BU) (BU-30) ASSY	
269	4-222-095-01	BELT	
270	4-227-045-11	SPRING (INSULATOR), COIL	
271	4-985-672-01	SCREW (+PTPWH M2.6), FLOATING	
274	4-221-678-01	CAM (CONTROL)	
275	4-221-683-01	GEAR (U)	
276	4-221-685-01	PULLEY (S)	
279	4-227-899-01	SCREW (DIA. 12), FROATING	
282	4-222-097-01	SCREW, STEP	
283	4-231-451-01	INSULATOR (BU-30)	
284	4-231-151-01	STOPPER (BU)	
M721	A-4672-826-A	MOTOR ASSY (TURN)	

7-7. BASE UNIT SECTION (BU-30BD60)



Ref. No.	Part No.	Description	Remarks
301	3-531-576-11	RIVET	
302	A-4725-531-A	BD BOARD, COMPLETE	
303	4-233-832-01	GEAR (LB)	
304	7-627-853-28	SCREW, PRECISION +P 2X3 TYPE3	
305	4-233-831-01	GEAR (LA)	
306	1-757-710-11	WIRE (FLAT TYPE) (16 CORE)	
⚠307	A-4735-188-A	BU-30 (60) ASSY	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ADDRESS SENSOR

BD

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...
- Abbreviation
  AR : Argentina model
  AUS : Australian model
  E51 : Chilean and Peruvian model
  KR : Korea model
  MX : Mexican model
  SP : Singapore model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
	1-675-911-14	ADDRESS SENSOR BOARD			
		**********			
		< CAPACITOR >			
C712	1-164-159-11	CERAMIC	0.1uF		50V
		< IC >			
IC711	8-749-014-38	PHOTO INTERRUPTER SG-264			
		< RESISTOR >			
R711	1-247-876-11	CARBON	75K	5%	1/4W
R712	1-249-409-11	CARBON	220	5%	1/4W F
R713	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S711	1-771-821-11	SWITCH, PUSH (1 KEY) (UP/DOWN)			
**********					
	A-4725-531-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C102	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C103	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C104	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C108	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C109	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C112	1-109-982-11	CERAMIC CHIP	1uF	10.00%	10V
C114	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C116	1-104-665-11	ELECT	100uF	20.00%	10V
C117	1-104-665-11	ELECT	100uF	20.00%	10V
C118	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C121	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C122	1-124-584-00	ELECT	100uF	20%	10V
C123	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C124	1-107-823-11	CERAMIC CHIP	0.47uF	10.00%	16V
C125	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C126	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C127	1-124-584-00	ELECT	100uF	20%	10V

Ref. No.	Part No.	Description			Remarks
C129	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C130	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C131	1-104-665-11	ELECT	100uF	20.00%	10V
C133	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C143	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C145	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C153	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C159	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C162	1-104-665-11	ELECT	100uF	20.00%	10V
C165	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C167	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C168	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C171	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C172	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C181	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C182	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C183	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C184	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C185	1-107-823-11	CERAMIC CHIP	0.47uF	10.00%	16V
C190	1-115-156-11	CERAMIC CHIP	1uF		10V
C191	1-124-584-00	ELECT	100uF	20%	10V
C192	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C193	1-104-665-11	ELECT	100uF	20.00%	10V
C194	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C195	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C196	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C197	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C198	1-124-584-00	ELECT	100uF	20%	10V
		< CONNECTOR >			
CN101	1-568-864-11	CONNECTOR, FFC 21P			
CN102	1-793-907-11	CONNECTOR, FFC/FPC 16P			
		< DIODE >			
D101	8-719-422-12	DIODE UDZ-TE-17-3.9B			
		< FERRITE BEAD >			
FB101	1-500-445-11	FERRITE	0UH		
FB102	1-500-445-11	FERRITE	0UH		

Ref. No.	Part No.	Description			Remarks
		< IC >			
IC101	8-752-402-31	IC CXD3017Q			
IC102	8-759-827-41	IC BA5974FM-E2			
IC103	8-752-089-74	IC CXA2581N-T4			
		< JUMPER RESISTOR >			
JR101	1-216-295-11	SHORT	0		
JR102	1-216-295-11	SHORT	0		
JR103	1-216-295-11	SHORT	0		
JR104	1-216-295-11	SHORT	0		
JR105	1-216-295-11	SHORT	0		
JR106	1-216-295-11	SHORT	0		
JR122	1-216-296-11	SHORT	0		
JR123	1-216-296-11	SHORT	0		
JR124	1-216-296-11	SHORT	0		
JR125	1-216-296-11	SHORT	0		
		< COIL >			
L101	1-469-553-21	INDUCTOR	4.7uH		
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR	MSB710-RT1		
Q102	8-729-920-85	TRANSISTOR	2SD1664-T100-QR		
		< RESISTOR >			
R101	1-216-049-11	RES-CHIP	1K	5%	1/10W
R102	1-216-097-00	RES-CHIP	100K	5%	1/10W
R103	1-216-077-00	RES-CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-049-11	RES-CHIP	1K	5%	1/10W
R106	1-216-049-11	RES-CHIP	1K	5%	1/10W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R109	1-216-121-11	RES-CHIP	1M	5%	1/10W
R111	1-216-099-00	METAL CHIP	120K	5%	1/10W
R114	1-218-745-11	RES-CHIP	160K	5%	1/16W
R116	1-216-001-00	METAL CHIP	10	5%	1/10W
R117	1-216-049-11	RES-CHIP	1K	5%	1/10W
R118	1-216-025-11	RES-CHIP	100	5%	1/10W
R119	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R120	1-216-077-00	RES-CHIP	15K	5%	1/10W
R122	1-216-097-00	RES-CHIP	100K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-00	RES-CHIP	100K	5%	1/10W
R131	1-216-033-00	METAL CHIP	220	5%	1/10W
R143	1-216-085-00	METAL CHIP	33K	5%	1/10W
R144	1-216-085-00	METAL CHIP	33K	5%	1/10W
R147	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-001-00	METAL CHIP	10	5%	1/10W
R158	1-216-083-00	METAL CHIP	27K	5%	1/10W
R159	1-216-083-00	METAL CHIP	27K	5%	1/10W
R162	1-216-097-00	RES-CHIP	100K	5%	1/10W
R171	1-216-081-00	METAL CHIP	22K	5%	1/10W
R172	1-216-081-00	METAL CHIP	22K	5%	1/10W
R173	1-216-081-00	METAL CHIP	22K	5%	1/10W
R181	1-216-081-00	METAL CHIP	22K	5%	1/10W
R182	1-216-081-00	METAL CHIP	22K	5%	1/10W
R183	1-216-081-00	METAL CHIP	22K	5%	1/10W
R190	1-216-033-00	METAL CHIP	220	5%	1/10W
R191	1-216-085-00	METAL CHIP	33K	5%	1/10W
R192	1-216-085-00	METAL CHIP	33K	5%	1/10W
R193	1-216-099-00	METAL CHIP	120K	5%	1/10W
R194	1-216-097-00	RES-CHIP	100K	5%	1/10W
R195	1-216-113-00	METAL CHIP	470K	5%	1/10W
R196	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R198	1-216-295-11	SHORT	0		
		< NETWORK >			
RN101	1-233-576-11	RES, CHIP NETWORK 100			
		< VARIABLE RESISTOR >			
RV101	1-238-602-11	RES, ADJ, CARBON 47K			
		< VIBRATOR >			
X101	1-579-280-11	VIBRATOR, CRYSTAL 16.9344MHz			
**********					
	1-680-263-11	CD SWITCH BOARD			
		**********			
		< DIODE >			
D791	8-719-057-97	DIODE SEL5923A-TP15 (DISC 1)			
D792	8-719-057-97	DIODE SEL5923A-TP15 (DISC 2)			
D793	8-719-057-97	DIODE SEL5923A-TP15 (DISC 3)			
D794	8-719-071-44	DIODE SELS5223C (I/⏻)			
		< TRANSISTOR >			
Q791	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q792	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q793	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q794	8-729-900-80	TRANSISTOR	BA1A4M-TP		
		< RESISTOR >			
R791	1-249-419-11	CARBON	1.5K	5%	1/4W F
R792	1-249-421-11	CARBON	2.2K	5%	1/4W F
R793	1-249-422-11	CARBON	2.7K	5%	1/4W F
R794	1-249-424-11	CARBON	3.9K	5%	1/4W F
R795	1-249-426-11	CARBON	5.6K	5%	1/4W
R796	1-249-410-11	CARBON	270	5%	1/4W F
R798	1-249-409-11	CARBON	220	5%	1/4W F
R799	1-249-409-11	CARBON	220	5%	1/4W F
R800	1-249-417-11	CARBON	1K	5%	1/4W F
R801	1-249-409-11	CARBON	220	5%	1/4W F
		< SWITCH >			
S791	1-762-875-21	SWITCH, KEYBOARD (OPEN/CLOSE)			
S792	1-762-875-21	SWITCH, KEYBOARD (DISC SKIP EX-CHANGE)			
S793	1-762-875-21	SWITCH, KEYBOARD (DISC 3)			
S794	1-762-875-21	SWITCH, KEYBOARD (DISC 2)			
S795	1-762-875-21	SWITCH, KEYBOARD (DISC 1)			
S796	1-762-875-21	SWITCH, KEYBOARD (I/⏻)			
**********					

DRIVER **HEAD (A)** **HEAD (B)** **LEAF SW** **MAIN**

Ref. No.	Part No.	Description			Remarks
	1-675-912-14	DRIVER BOARD			
		**********			
		< CAPACITOR >			
C702	1-126-964-11	ELECT	10uF	20.00% 50V	
		< CONNECTOR >			
CN701	1-785-336-11	PIN, CONNECTOR(LIGHT ANGLE)10P			
CN702	1-785-550-11	CONNECTOR, FFC/FPC 8P			
		< DIODE >			
D701	8-719-983-68	DIODE MTZJ-T-72-3.9A			
		< IC >			
IC701	8-759-598-69	IC BA6956AN			
		< RESISTOR >			
R701	1-249-411-11	CARBON	330	5% 1/4W	
R702	1-249-401-11	CARBON	47	5% 1/4W	F
**********					
	1-676-220-11	HEAD (A) BOARD			
		**********			
		< CONNECTOR >			
* CN1	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
**********					
	1-676-221-11	HEAD (B) BOARD			
		**********			
CN2	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			
**********					
	A-2007-846-A	LEAF SW BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1001	1-107-716-11	ELECT	33uF	20.00% 10V	
		< CONNECTOR >			
CN1001	1-568-860-11	SOCKET, CONNECTOR 17P			
		< DIODE >			
D1001	8-719-911-19	DIODE 1SS133T-72			
D1002	8-719-911-19	DIODE 1SS133T-72			
		< IC >			
IC1001	8-749-014-38	PHOTO INTERRUPTER SG-264			
IC1002	8-749-014-38	PHOTO INTERRUPTER SG-264			
		< TRANSISTOR >			
Q1001	8-729-029-56	TRANSISTOR	DTA144ESA-TP		
		< RESISTOR >			
R907	1-247-879-11	CARBON	100K	5% 1/4W	
R1001	1-249-409-11	CARBON	220	5% 1/4W	F
R1002	1-249-409-11	CARBON	220	5% 1/4W	F
R1003	1-249-414-11	CARBON	560	5% 1/4W	F
R1004	1-247-834-11	CARBON	1.3K	5% 1/4W	
R1005	1-247-818-11	CARBON	300	5% 1/4W	
R1006	1-247-864-11	CARBON	24K	5% 1/4W	
R1007	1-247-780-00	CARBON	7.5	5% 1/4W	
R1008	1-249-417-11	CARBON	1K	5% 1/4W	F
		< VARIABLE RESISTOR >			
RV1001	1-241-785-11	RES, ADJ, CARBON 10K			
RV1002	1-241-785-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S1001	1-570-953-11	SWITCH, PUSH (1 KEY) (A PLAY)			
S1002	1-570-953-11	SWITCH, PUSH (1 KEY) (B PLAY)			
S1003	1-771-333-11	SWITCH, LEAF (A HALF)			
S1005	1-771-205-11	SWITCH, LEAF (REC A)			
S1006	1-771-333-11	SWITCH, LEAF (B HALF)			
S1009	1-771-205-11	SWITCH, LEAF (REC B)			
**********					
	A-4475-789-A	MAIN BOARD, COMPLETE (DX50: SP,AUS)			
		**********			
	A-4476-287-A	MAIN BOARD, COMPLETE (DX50: E)			
		**********			
	A-4476-330-A	MAIN BOARD, COMPLETE (DX50: MX,AR)			
		**********			
	A-4476-332-A	MAIN BOARD, COMPLETE (DX50: KR)			
		**********			
	A-4476-984-A	MAIN BOARD, COMPLETE (RG80)			
		**********			
	7-685-646-79	SCREW +BVTP	3X8	TYPE2 N-S	
	7-685-646-79	SCREW +BVTP	3X8	TYPE2 N-S	
		< CAPACITOR >			
C1	1-162-974-11	CERAMIC CHIP	0.01uF	50V	
C3	1-104-664-11	ELECT	47uF	20.00% 16V	
C4	1-162-974-11	CERAMIC CHIP	0.01uF	50V	
C5	1-162-974-11	CERAMIC CHIP	0.01uF	50V	
C7	1-162-974-11	CERAMIC CHIP	0.01uF	50V	
C11	1-162-974-11	CERAMIC CHIP	0.01uF	50V	
C12	1-104-664-11	ELECT	47uF	20.00% 16V	
C13	1-162-974-11	CERAMIC CHIP	0.01uF	50V	
C14	1-162-974-11	CERAMIC CHIP	0.01uF	50V	
C15	1-162-974-11	CERAMIC CHIP	0.01uF	50V	
C16	1-104-664-11	ELECT	47uF	20.00% 16V	
C17	1-126-959-11	ELECT	0.47uF	20.00% 50V	
C18	1-126-960-11	ELECT	1uF	20.00% 50V	
C19	1-126-960-11	ELECT	1uF	20.00% 50V	
C20	1-164-245-11	CERAMIC CHIP	0.015uF	10.00% 25V	(DX50)
C20	1-164-245-11	CERAMIC CHIP	0.022uF	10.00% 25V	(RG80)
C21	1-164-245-11	CERAMIC CHIP	0.015uF	10.00% 25V	(DX50)
C21	1-164-245-11	CERAMIC CHIP	0.022uF	10.00% 25V	(DX80)
C22	1-162-968-11	CERAMIC CHIP	0.0047uF	10% 50V	
C23	1-164-360-11	CERAMIC CHIP	0.1uF	16V	

Ref. No.	Part No.	Description			Remarks
C24	1-126-963-11	ELECT	4.7uF	20.00%	50V
C25	1-126-964-11	ELECT	10uF	20.00%	50V
C26	1-164-471-11	CERAMIC CHIP	680PF	5.00%	50V
C27	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C28	1-126-964-11	ELECT	10uF	20.00%	50V
C29	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C30	1-126-962-11	ELECT	3.3uF	20.00%	50V
C31	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C32	1-126-963-11	ELECT	4.7uF	20.00%	50V
C35	1-104-664-11	ELECT	47uF	20.00%	16V
C36	1-126-963-11	ELECT	4.7uF	20.00%	50V
C39	1-164-361-11	CERAMIC CHIP	0.047uF	16V	
C40	1-164-361-11	CERAMIC CHIP	0.047uF	16V	
C41	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C42	1-162-940-11	CERAMIC CHIP	9PF	0.5PF	50V
C43	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C46	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C51	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C52	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C53	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C55	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C56	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C57	1-104-664-11	ELECT	47uF	20.00%	16V
C58	1-126-961-11	ELECT	2.2uF	20.00%	50V
C59	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C60	1-104-664-11	ELECT	47uF	20.00%	16V
C61	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C62	1-126-959-11	ELECT	0.47uF	20.00%	50V
C63	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C69	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C101	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C102	1-126-961-11	ELECT	2.2uF	20.00%	50V
C103	1-126-964-11	ELECT	10uF	20.00%	50V
C104	1-126-964-11	ELECT	10uF	20.00%	50V
C105	1-126-964-11	ELECT	10uF	20.00%	50V
C106	1-136-161-00	FILM	0.047uF	5.00%	50V
C107	1-136-495-11	FILM	0.068uF	5.00%	50V
C108	1-136-495-11	FILM	0.068uF	5.00%	50V
C109	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C110	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C111	1-164-172-11	CERAMIC CHIP	0.0056uF	10.00%	25V
C112	1-126-961-11	ELECT	2.2uF	20.00%	50V
C113	1-126-957-11	ELECT	0.22uF	20.00%	50V
C115	1-136-169-00	FILM	0.22uF	5.00%	50V
C116	1-136-169-00	FILM	0.22uF	5.00%	50V
C117	1-126-964-11	ELECT	10uF	20.00%	50V
C118	1-126-961-11	ELECT	2.2uF	20.00%	50V
C121	1-126-964-11	ELECT	10uF	20.00%	50V (DX50)
C122	1-126-964-11	ELECT	10uF	20.00%	50V (DX50)
C123	1-126-964-11	ELECT	10uF	20.00%	50V (DX50)
C124	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C125	1-126-964-11	ELECT	10uF	20.00%	50V (DX50)
C127	1-126-961-11	ELECT	2.2uF	20.00%	50V
C128	1-126-963-11	ELECT	4.7uF	20.00%	50V
C129	1-126-963-11	ELECT	4.7uF	20.00%	50V

Ref. No.	Part No.	Description			Remarks
C130	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C131	1-136-169-00	FILM	0.22uF	5.00%	50V
C132	1-126-964-11	ELECT	10uF	20.00%	50V
C133	1-126-935-11	ELECT	470uF	20.00%	10V
C134	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C135	1-126-964-11	ELECT	10uF	20.00%	50V
C136	1-126-964-11	ELECT	10uF	20.00%	50V
C137	1-126-964-11	ELECT	10uF	20.00%	50V
C139	1-126-964-11	ELECT	10uF	20.00%	50V
C140	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C141	1-162-947-11	CERAMIC CHIP	33PF	5%	50V (DX50)
C142	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C143	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (DX50: KR)
C144	1-126-964-11	ELECT	10uF	20.00%	50V
C146	1-126-935-11	ELECT	470uF	20.00%	10V
C147	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (DX50: KR)
C148	1-164-156-11	CERAMIC CHIP	0.1uF		25V (DX50: KR)
C151	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C152	1-126-961-11	ELECT	2.2uF	20.00%	50V
C153	1-126-964-11	ELECT	10uF	20.00%	50V
C154	1-126-964-11	ELECT	10uF	20.00%	50V
C155	1-126-964-11	ELECT	10uF	20.00%	50V
C156	1-136-161-00	FILM	0.047uF	5.00%	50V
C157	1-136-495-11	FILM	0.068uF	5.00%	50V
C158	1-136-495-11	FILM	0.068uF	5.00%	50V
C159	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C160	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C161	1-164-172-11	CERAMIC CHIP	0.0056uF	10.00%	25V
C162	1-126-961-11	ELECT	2.2uF	20.00%	50V
C165	1-136-169-00	FILM	0.22uF	5.00%	50V
C166	1-136-169-00	FILM	0.22uF	5.00%	50V
C167	1-126-964-11	ELECT	10uF	20.00%	50V
C171	1-126-964-11	ELECT	10uF	20.00%	50V (DX50)
C172	1-126-964-11	ELECT	10uF	20.00%	50V (DX50)
C175	1-126-964-11	ELECT	10uF	20.00%	50V (DX50)
C177	1-126-961-11	ELECT	2.2uF	20.00%	50V
C178	1-126-963-11	ELECT	4.7uF	20.00%	50V
C179	1-126-963-11	ELECT	4.7uF	20.00%	50V
C180	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C191	1-162-947-11	CERAMIC CHIP	33PF	5%	50V (DX50)
C201	1-104-665-11	ELECT	100uF	20.00%	10V
C202	1-126-916-11	ELECT	1000uF	20.00%	6.3V
C203	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C205	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C207	1-126-916-11	ELECT	1000uF	20.00%	6.3V
C208	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C209	1-126-935-11	ELECT	470uF	20.00%	10V
C212	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C213	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C215	1-126-964-11	ELECT	10uF	20.00%	50V

MAIN

Ref. No.	Part No.	Description			Remarks
C216	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C224	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C226	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C228	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C301	1-126-960-11	ELECT	1uF	20.00%	50V
C302	1-130-479-00	MYLAR	0.0047uF	5%	50V
C303	1-136-165-00	FILM	0.1uF	5.00%	50V
C305	1-126-964-11	ELECT	10uF	20.00%	50V
C306	1-126-960-11	ELECT	1uF	20.00%	50V
C307	1-126-959-11	ELECT	0.47uF	20.00%	50V
C308	1-126-964-11	ELECT	10uF	20.00%	50V
C309	1-137-194-11	FILM	0.47uF	5.00%	50V
C310	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C311	1-126-964-11	ELECT	10uF	20.00%	50V
C312	1-126-959-11	ELECT	0.47uF	20.00%	50V
C313	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C314	1-126-964-11	ELECT	10uF	20.00%	50V
C315	1-126-963-11	ELECT	4.7uF	20.00%	50V
C316	1-126-933-11	ELECT	100uF	20.00%	16V
C317	1-104-665-11	ELECT	100uF	20.00%	10V
C318	1-126-964-11	ELECT	10uF	20.00%	50V
C319	1-126-961-11	ELECT	2.2uF	20.00%	50V
C320	1-126-961-11	ELECT	2.2uF	20.00%	50V
C321	1-164-392-11	CERAMIC CHIP	390PF	10.00%	50V
C322	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C323	1-130-487-00	MYLAR	0.022uF	5%	50V
C324	1-126-964-11	ELECT	10uF	20.00%	50V
C325	1-126-965-11	ELECT	22uF	20.00%	50V
C326	1-164-392-11	CERAMIC CHIP	390PF	10.00%	50V
C327	1-104-665-11	ELECT	100uF	20.00%	10V
C328	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C329	1-130-483-00	MYLAR	0.01uF	5%	50V
C330	1-126-964-11	ELECT	10uF	20.00%	50V
C331	1-126-965-11	ELECT	22uF	20.00%	50V
C332	1-137-427-11	MYLAR	120PF	5.00%	50V
C333	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C334	1-162-946-11	CERAMIC CHIP	27PF	5%	50V
C335	1-137-150-11	MYLAR	0.01uF	5.00%	100V
C336	1-126-961-11	ELECT	2.2uF	20.00%	50V
C337	1-130-485-00	MYLAR	0.015uF	5%	50V
C338	1-130-481-00	MYLAR	0.0068uF	5%	50V
C339	1-130-481-00	MYLAR	0.0068uF	5%	50V
C340	1-130-486-00	MYLAR	0.018uF	10%	50V
C341	1-126-960-11	ELECT	1uF	20.00%	50V
C342	1-104-664-11	ELECT	47uF	20.00%	16V
C351	1-126-960-11	ELECT	1uF	20.00%	50V
C352	1-130-479-00	MYLAR	0.0047uF	5%	50V
C353	1-136-165-00	FILM	0.1uF	5.00%	50V
C355	1-126-964-11	ELECT	10uF	20.00%	50V
C356	1-126-960-11	ELECT	1uF	20.00%	50V
C357	1-126-959-11	ELECT	0.47uF	20.00%	50V
C358	1-126-964-11	ELECT	10uF	20.00%	50V
C359	1-137-194-11	FILM	0.47uF	5.00%	50V
C360	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C362	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C363	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C368	1-126-964-11	ELECT	10uF	20.00%	50V
C369	1-126-961-11	ELECT	2.2uF	20.00%	50V

Ref. No.	Part No.	Description			Remarks
C370	1-126-961-11	ELECT	2.2uF	20.00%	50V
C371	1-164-392-11	CERAMIC CHIP	390PF	10.00%	50V
C372	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C373	1-130-487-00	MYLAR	0.022uF	5%	50V
C374	1-126-964-11	ELECT	10uF	20.00%	50V
C375	1-126-965-11	ELECT	22uF	20.00%	50V
C376	1-164-392-11	CERAMIC CHIP	390PF	10.00%	50V
C377	1-104-665-11	ELECT	100uF	20.00%	10V
C378	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C379	1-130-483-00	MYLAR	0.01uF	5%	50V
C380	1-126-964-11	ELECT	10uF	20.00%	50V
C381	1-126-965-11	ELECT	22uF	20.00%	50V
C382	1-137-427-11	MYLAR	120PF	5.00%	50V
C383	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C384	1-162-946-11	CERAMIC CHIP	27PF	5%	50V
C385	1-126-964-11	ELECT	10uF	20.00%	50V
C395	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C504	1-109-953-11	ELECT	2.2uF	20.00%	50V
C505	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C510	1-162-918-11	CERAMIC CHIP	18PF	5.00%	50V
C511	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C512	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C514	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C516	1-126-916-11	ELECT	1000uF	20.00%	6.3V
C530	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C546	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C562	1-104-665-11	ELECT	100uF	20.00%	10V
C564	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C575	1-136-165-00	FILM	0.1uF	5.00%	50V
C576	1-136-165-00	FILM	0.1uF	5.00%	50V
C577	1-126-964-11	ELECT	10uF	20.00%	50V
C596	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C598	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C599	1-126-964-11	ELECT	10uF	20.00%	50V
C801	1-164-156-11	CERAMIC CHIP	0.1uF		25V (DX50: KR)
C802	1-164-156-11	CERAMIC CHIP	0.1uF		25V (DX50: KR)
C803	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C821	1-104-665-11	ELECT	100uF	20.00%	10V
C822	1-126-961-11	ELECT	2.2uF	20.00%	50V
C824	1-126-960-11	ELECT	1uF	20.00%	50V
C841	1-126-959-11	ELECT	0.47uF	20.00%	50V
C851	1-164-156-11	CERAMIC CHIP	0.1uF		25V (DX50: KR)
C852	1-164-156-11	CERAMIC CHIP	0.1uF		25V (DX50: KR)
C853	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C861	1-107-717-11	ELECT	47uF	20.00%	50V
C862	1-107-721-11	ELECT	4.7uF	20.00%	100V
C863	1-107-721-11	ELECT	4.7uF	20.00%	100V
C891	1-126-964-11	ELECT	10uF	20.00%	50V
C892	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C901	1-126-944-11	ELECT	3300uF	20.00%	25V (EXCEPT KR)
C902	1-136-165-00	FILM	0.1uF	5.00%	50V
C903	1-136-165-00	FILM	0.1uF	5.00%	50V
C905	1-136-165-00	FILM	0.1uF	5.00%	50V
C906	1-136-165-00	FILM	0.1uF	5.00%	50V
C907	1-128-548-11	ELECT	4700uF	20.00%	25V

Ref. No.	Part No.	Description			Remarks
C908	1-126-942-11	ELECT	1000uF	20.00% 25V	
C909	1-126-952-11	ELECT	1000uF	20.00% 35V	
C911	1-126-960-11	ELECT	1uF	20.00% 50V	
C912	1-126-916-11	ELECT	1000uF	20.00% 6.3V	
C921	1-126-956-91	ELECT	0.1uF	20.00% 50V	
C922	1-126-933-11	ELECT	100uF	20.00% 16V	
C925	1-104-665-11	ELECT	100uF	20.00% 10V	
C932	1-126-935-11	ELECT	470uF	20.00% 10V	
C951	1-126-956-91	ELECT	0.1uF	20.00% 50V	
C961	1-126-960-11	ELECT	1uF	20.00% 50V	
C962	1-126-926-11	ELECT	1000uF	20.00% 10V	
		< FILTER >			
CF1	1-760-023-11	FILTER, CERAMIC			
CF2	1-760-023-11	FILTER, CERAMIC			
		< CONNECTOR >			
CN201	1-569-937-11	SOCKET, CONNECTOR 21P			
* CN301	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P			
* CN304	1-569-934-11	SOCKET, CONNECTOR 17P			
CN401	1-793-766-11	CONNECTOR, BOARD TO BOARD 30P			
CN402	1-785-330-11	PIN, CONNECTOR (LIGHT ANGLE)4P			
CN891	1-564-506-11	PLUG, CONNECTOR 3P			
CN901	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P			
CN902	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P			
		< DIODE >			
D51	8-719-988-61	DIODE 1SS355TE-17			
D508	8-719-988-61	DIODE 1SS355TE-17			
D509	8-719-988-61	DIODE 1SS355TE-17			
D510	8-719-988-61	DIODE 1SS355TE-17			
D511	8-719-988-61	DIODE 1SS355TE-17			
D575	8-719-988-61	DIODE 1SS355TE-17			
D576	8-719-988-61	DIODE 1SS355TE-17			
D577	8-719-988-61	DIODE 1SS355TE-17			
D578	8-719-988-61	DIODE 1SS355TE-17			
D579	8-719-988-61	DIODE 1SS355TE-17			
D580	8-719-988-61	DIODE 1SS355TE-17			
D801	8-719-988-61	DIODE 1SS355TE-17			
D822	8-719-988-61	DIODE 1SS355TE-17			
D824	8-719-988-61	DIODE 1SS355TE-17			
D841	8-719-988-61	DIODE 1SS355TE-17			
D861	8-719-988-61	DIODE 1SS355TE-17			
D892	8-719-988-61	DIODE 1SS355TE-17			
D893	8-719-988-61	DIODE 1SS355TE-17			
D901	8-719-083-89	DIODE 11ES2N-TB5			
D902	8-719-083-89	DIODE 11ES2N-TB5			
D903	8-719-083-89	DIODE 11ES2N-TB5			
D904	8-719-083-89	DIODE 11ES2N-TB5			
D906	8-719-083-89	DIODE 11ES2N-TB5			
D907	8-719-083-89	DIODE 11ES2N-TB5			
D908	8-719-083-89	DIODE 11ES2N-TB5			
D909	8-719-083-89	DIODE 11ES2N-TB5			
D910	8-719-083-89	DIODE 11ES2N-TB5			
D911	8-719-083-89	DIODE 11ES2N-TB5			
D912	8-719-083-89	DIODE 11ES2N-TB5			
D920	8-719-083-89	DIODE 11ES2N-TB5			

Ref. No.	Part No.	Description		Remarks
D921	8-719-083-89	DIODE 11ES2N-TB5		
D922	8-719-083-89	DIODE 11ES2N-TB5		
D952	8-719-988-61	DIODE 1SS355TE-17		
D953	8-719-988-61	DIODE 1SS355TE-17		
		< FERRITE BEAD >		
FB201	1-216-864-11	SHORT	0	
FB203	1-216-864-11	SHORT	0	
FB204	1-216-864-11	SHORT	0	
FB516	1-216-864-11	SHORT	0	
FB562	1-216-864-11	SHORT	0	
FB599	1-216-864-11	SHORT	0	
		< FRONT END >		
FE1	1-693-477-11	FRONT END (3 GANGS)		
		< IC >		
IC11	8-759-828-33	IC LA1845		
IC51	8-759-584-70	IC LC72131		
IC101	8-759-652-04	IC M61504FP-TP		
IC102	8-759-106-02	IC uPC4570G2-E2		
IC104	8-759-106-02	IC uPC4570G2-E2 (DX50)		
IC105	8-759-525-25	IC BU4052BCF-E2		
IC106	8-759-106-02	IC uPC4570G2-E2		
IC201	8-749-923-04	IC TOTX178A (OPTICAL(CD DIGITAL OUT))		
IC202	8-759-491-46	IC TC74VHCT04AFT(EL)		
IC301	8-759-652-80	IC HA12227F		
IC302	8-759-143-54	IC uPC1330HA		
IC303	8-759-385-17	IC NJM4580E(TE2)		
IC304	8-759-385-17	IC NJM4580E(TE2)		
IC501	8-759-829-45	IC M30620MCA-A95FP		
IC502	8-759-635-63	IC M51943BSL-TP		
IC911	8-759-039-69	IC uPC7805AHF		
IC921	8-759-088-08	IC uPC7812AHF		
IC951	8-759-158-62	IC TA78057S		
IC961	8-759-701-59	IC AN7809		
		< IFT >		
IFT11	1-435-848-11	TRANSFORMER, IF		
		< JACK >		
J101	1-793-987-11	JACK, PIN 2P (MD/VIDEO AUDIO IN)		
J102	1-794-472-11	JACK, PIN 2P (SURROUND) (RG80)		
		< JUMPER/RESISTOR >		
JR1	1-216-864-11	SHORT	0	
JR2	1-216-864-11	SHORT	0	
JR3	1-216-864-11	SHORT	0	
JR4	1-216-864-11	SHORT	0	
JR5	1-216-864-11	SHORT	0	
JR6	1-216-864-11	SHORT	0	
JR7	1-216-864-11	SHORT	0	
JR8	1-216-864-11	SHORT	0	
JR10	1-216-864-11	SHORT	0	
JR12	1-216-864-11	SHORT	0	
JR15	1-216-864-11	SHORT	0	
JR16	1-216-864-11	SHORT	0	

MAIN

Ref. No.	Part No.	Description			Remarks
JR17	1-216-864-11	SHORT	0		
JR18	1-216-864-11	SHORT	0		
JR19	1-216-864-11	SHORT	0		
JR20	1-216-864-11	SHORT	0		
JR21	1-216-864-11	SHORT	0		
JR22	1-216-864-11	SHORT	0		
JR24	1-216-864-11	SHORT	0		
JR25	1-216-864-11	SHORT	0		
JR26	1-216-864-11	SHORT	0		
JR27	1-216-864-11	SHORT	0		
JR28	1-216-864-11	SHORT	0		
JR29	1-216-864-11	SHORT	0		
JR30	1-216-864-11	SHORT	0		
JR35	1-216-864-11	SHORT	0		
JR38	1-216-864-11	SHORT	0		
JR104	1-216-864-11	SHORT	0		
JR201	1-216-864-11	SHORT	0		
JR301	1-216-864-11	SHORT	0		
JR304	1-216-864-11	SHORT	0		
JR501	1-216-864-11	SHORT	0		
JR801	1-216-864-11	SHORT	0		
JR907	1-216-864-11	SHORT	0 (RG80)		
JR910	1-216-864-11	SHORT	0 (RG80)		
JR922	1-216-845-11	METAL CHIP	100K	5%	1/16W (RG80)
		< COIL >			
L101	1-414-189-31	INDUCTOR	100uH		
L201	1-414-189-31	INDUCTOR	100uH		
L301	1-410-780-11	INDUCTOR	27MH		
L302	1-414-193-11	INDUCTOR	220uH		
L303	1-414-193-11	INDUCTOR	220uH		
L351	1-410-780-11	INDUCTOR	27MH		
L801	1-420-872-00	COIL, AIR-CORE (KR)			
L851	1-420-872-00	COIL, AIR-CORE (KR)			
		< TRANSISTOR >			
Q1	8-729-178-63	TRANSISTOR	2SC1674-K		
Q2	8-729-422-57	TRANSISTOR	BN1A4M-TP		
Q11	8-729-620-05	TRANSISTOR	2SC2603TP-EF		
Q12	8-729-620-05	TRANSISTOR	2SC2603TP-EF		
Q101	8-729-120-28	TRANSISTOR	2SC1623-T1L6		
Q102	8-729-144-85	TRANSISTOR	2SK1133-T1B		
Q103	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q104	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
Q141	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
Q151	8-729-120-28	TRANSISTOR	2SC1623-T1L6		
Q152	8-729-144-85	TRANSISTOR	2SK1133-T1B		
Q153	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q301	8-729-801-93	TRANSISTOR	2SD1387-34-TP		
Q302	8-729-142-46	TRANSISTOR	2SC2001TP-LK		
Q303	8-729-142-46	TRANSISTOR	2SC2001TP-LK		
Q304	8-729-113-69	TRANSISTOR	FN1F4M-T1M32		
Q305	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
Q391	8-729-140-04	TRANSISTOR	2SB1116-TP-LK		
Q392	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
Q393	8-729-140-04	TRANSISTOR	2SB1116-TP-LK		
Q394	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
Q395	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
Q396	8-729-116-57	TRANSISTOR	2SB1068TP-K		
Q397	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
Q503	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
Q504	8-729-113-69	TRANSISTOR	FN1F4M-T1M32		
Q505	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
Q575	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
Q821	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
Q822	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
Q823	8-729-216-22	TRANSISTOR	2SA812-T1-M5M6		
Q824	8-729-014-97	TRANSISTOR	FA1L3Z-T1B		
Q825	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
Q828	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
Q829	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
Q861	8-729-113-69	TRANSISTOR	FN1F4M-T1M32		
Q862	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q863	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q891	8-729-140-04	TRANSISTOR	2SB1116-TP-LK		
Q892	8-729-620-05	TRANSISTOR	2SC2603TP-EF		
Q911	8-729-141-83	TRANSISTOR	2SB1375		
Q912	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
		< RESISTOR >			
R1	1-216-864-11	SHORT	0		
R3	1-216-805-11	METAL CHIP	47	5%	1/16W
R4	1-216-805-11	METAL CHIP	47	5%	1/16W
R5	1-216-819-11	METAL CHIP	680	5%	1/16W
R6	1-216-815-11	METAL CHIP	330	5%	1/16W
R7	1-216-819-11	METAL CHIP	680	5%	1/16W
R8	1-216-821-11	METAL CHIP	1K	5%	1/16W
R10	1-216-814-11	METAL CHIP	270	5%	1/16W
R12	1-216-833-11	METAL CHIP	10K	5%	1/16W
R13	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R14	1-216-814-11	METAL CHIP	270	5%	1/16W
R15	1-216-843-11	METAL CHIP	68K	5%	1/16W
R16	1-216-837-11	METAL CHIP	22K	5%	1/16W
R17	1-216-839-11	METAL CHIP	33K	5%	1/16W
R18	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R19	1-216-833-11	METAL CHIP	10K	5%	1/16W
R20	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R21	1-216-819-11	METAL CHIP	680	5%	1/16W (EXCEPT DX50: E)
R21	1-216-820-11	METAL CHIP	820	5%	1/16W (DX50: E)
R22	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R23	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R24	1-216-819-11	METAL CHIP	680	5%	1/16W (EXCEPT DX50: E)
R24	1-216-820-11	METAL CHIP	820	5%	1/16W (DX50: E)
R25	1-216-809-11	METAL CHIP	100	5%	1/16W
R26	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R27	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R28	1-216-849-11	METAL CHIP	220K	5%	1/16W
R29	1-216-849-11	METAL CHIP	220K	5%	1/16W
R30	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R31	1-216-829-11	METAL CHIP	4.7K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R41	1-216-833-11	METAL CHIP	10K	5%	1/16W
R42	1-216-845-11	METAL CHIP	100K	5%	1/16W
R43	1-216-839-11	METAL CHIP	33K	5%	1/16W
R55	1-216-833-11	METAL CHIP	10K	5%	1/16W
R56	1-216-833-11	METAL CHIP	10K	5%	1/16W
R58	1-216-809-11	METAL CHIP	100	5%	1/16W
R59	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R60	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R61	1-216-809-11	METAL CHIP	100	5%	1/16W
R62	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R63	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R64	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R65	1-216-809-11	METAL CHIP	100	5%	1/16W
R66	1-216-833-11	METAL CHIP	10K	5%	1/16W
R67	1-216-833-11	METAL CHIP	10K	5%	1/16W
R68	1-216-821-11	METAL CHIP	1K	5%	1/16W
R69	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R101	1-216-821-11	METAL CHIP	1K	5%	1/16W
R102	1-216-845-11	METAL CHIP	100K	5%	1/16W
R103	1-216-833-11	METAL CHIP	10K	5%	1/16W
R104	1-216-833-11	METAL CHIP	10K	5%	1/16W
R105	1-216-845-11	METAL CHIP	100K	5%	1/16W
R106	1-216-845-11	METAL CHIP	100K	5%	1/16W
R107	1-216-849-11	METAL CHIP	220K	5%	1/16W
R108	1-216-845-11	METAL CHIP	100K	5%	1/16W
R109	1-216-833-11	METAL CHIP	10K	5%	1/16W
R110	1-216-819-11	METAL CHIP	680	5%	1/16W
R111	1-216-833-11	METAL CHIP	10K	5%	1/16W
R112	1-216-841-11	METAL CHIP	47K	5%	1/16W
R113	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R114	1-216-845-11	METAL CHIP	100K	5%	1/16W
R115	1-216-833-11	METAL CHIP	10K	5%	1/16W
R116	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R117	1-216-833-11	METAL CHIP	10K	5%	1/16W
R121	1-216-834-11	METAL CHIP	12K	5%	1/16W (DX50)
R122	1-216-833-11	METAL CHIP	10K	5%	1/16W (DX50)
R123	1-216-833-11	METAL CHIP	10K	5%	1/16W (DX50)
R124	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (DX50)
R125	1-216-833-11	METAL CHIP	10K	5%	1/16W
R132	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R133	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R134	1-216-821-11	METAL CHIP	1K	5%	1/16W
R135	1-216-839-11	METAL CHIP	33K	5%	1/16W
R137	1-216-837-11	METAL CHIP	22K	5%	1/16W
R139	1-216-821-11	METAL CHIP	1K	5%	1/16W
R141	1-216-821-11	METAL CHIP	1K	5%	1/16W
R142	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R143	1-216-841-11	METAL CHIP	47K	5%	1/16W
R144	1-216-864-11	SHORT	0		
R145	1-216-821-11	METAL CHIP	1K	5%	1/16W
R146	1-216-821-11	METAL CHIP	1K	5%	1/16W
R147	1-216-821-11	METAL CHIP	1K	5%	1/16W
R148	1-216-821-11	METAL CHIP	1K	5%	1/16W
R151	1-216-821-11	METAL CHIP	1K	5%	1/16W
R152	1-216-845-11	METAL CHIP	100K	5%	1/16W
R153	1-216-833-11	METAL CHIP	10K	5%	1/16W
R154	1-216-833-11	METAL CHIP	10K	5%	1/16W
R155	1-216-845-11	METAL CHIP	100K	5%	1/16W
R156	1-216-845-11	METAL CHIP	100K	5%	1/16W
R157	1-216-849-11	METAL CHIP	220K	5%	1/16W
R158	1-216-845-11	METAL CHIP	100K	5%	1/16W
R159	1-216-833-11	METAL CHIP	10K	5%	1/16W
R160	1-216-819-11	METAL CHIP	680	5%	1/16W
R161	1-216-833-11	METAL CHIP	10K	5%	1/16W
R162	1-216-841-11	METAL CHIP	47K	5%	1/16W
R163	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R164	1-216-845-11	METAL CHIP	100K	5%	1/16W
R165	1-216-833-11	METAL CHIP	10K	5%	1/16W
R166	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R171	1-216-834-11	METAL CHIP	12K	5%	1/16W (DX50)
R172	1-216-833-11	METAL CHIP	10K	5%	1/16W (DX50)
R173	1-216-833-11	METAL CHIP	10K	5%	1/16W (DX50)
R175	1-216-833-11	METAL CHIP	10K	5%	1/16W
R185	1-216-839-11	METAL CHIP	33K	5%	1/16W
R187	1-216-837-11	METAL CHIP	22K	5%	1/16W
R189	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R212	1-216-809-11	METAL CHIP	100	5%	1/16W
R217	1-216-809-11	METAL CHIP	100	5%	1/16W
R219	1-216-809-11	METAL CHIP	100	5%	1/16W
R224	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R226	1-216-851-11	METAL CHIP	330K	5%	1/16W
R228	1-216-845-11	METAL CHIP	100K	5%	1/16W
R301	1-216-836-11	METAL CHIP	18K	5%	1/16W
R302	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R303	1-216-809-11	METAL CHIP	100	5%	1/16W
R304	1-216-809-11	METAL CHIP	100	5%	1/16W
R305	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R306	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R307	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R308	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R309	1-216-837-11	METAL CHIP	22K	5%	1/16W
R311	1-216-857-11	METAL CHIP	1M	5%	1/16W
R312	1-218-745-11	RES-CHIP	160K	5%	1/16W
R314	1-216-864-11	SHORT	0		
R315	1-216-833-11	METAL CHIP	10K	5%	1/16W
R316	1-216-839-11	METAL CHIP	33K	5%	1/16W
R317	1-216-833-11	METAL CHIP	10K	5%	1/16W
R318	1-216-833-11	METAL CHIP	10K	5%	1/16W
R319	1-216-852-11	METAL CHIP	390K	5%	1/16W
R320	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R321	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R323	1-216-864-11	SHORT	0		
R331	1-216-846-11	METAL CHIP	120K	5%	1/16W
R332	1-216-809-11	METAL CHIP	100	5%	1/16W
R333	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R334	1-218-332-11	RES-CHIP	130K	5%	1/16W
R335	1-216-813-11	METAL CHIP	220	5%	1/16W
R336	1-216-846-11	METAL CHIP	120K	5%	1/16W
R337	1-216-813-11	METAL CHIP	220	5%	1/16W
R338	1-216-837-11	METAL CHIP	22K	5%	1/16W

MAIN

Ref. No.	Part No.	Description			Remarks
R339	1-216-834-11	METAL CHIP	12K	5%	1/16W
R340	1-216-850-11	METAL CHIP	270K	5%	1/16W
R341	1-216-813-11	METAL CHIP	220	5%	1/16W
R342	1-216-834-11	METAL CHIP	12K	5%	1/16W
R343	1-219-787-17	FUSIBLE	5.6	5%	1/4W
R344	1-219-787-17	FUSIBLE	5.6	5%	1/4W
R345	1-216-836-11	METAL CHIP	18K	5%	1/16W
R346	1-216-836-11	METAL CHIP	18K	5%	1/16W
R347	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R351	1-216-836-11	METAL CHIP	18K	5%	1/16W
R352	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R353	1-216-809-11	METAL CHIP	100	5%	1/16W
R354	1-216-809-11	METAL CHIP	100	5%	1/16W
R355	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R356	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R357	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R358	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R360	1-216-819-11	METAL CHIP	680	5%	1/16W
R361	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R363	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R364	1-216-819-11	METAL CHIP	680	5%	1/16W
R366	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R367	1-216-841-11	METAL CHIP	47K	5%	1/16W
R368	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R369	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R371	1-216-841-11	METAL CHIP	47K	5%	1/16W
R372	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R374	1-216-841-11	METAL CHIP	47K	5%	1/16W
R375	1-218-296-11	RES-CHIP	75K	5%	1/16W
R376	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R377	1-216-841-11	METAL CHIP	47K	5%	1/16W
R378	1-218-296-11	RES-CHIP	75K	5%	1/16W
R379	1-216-821-11	METAL CHIP	1K	5%	1/16W
R380	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R381	1-216-846-11	METAL CHIP	120K	5%	1/16W
R382	1-216-809-11	METAL CHIP	100	5%	1/16W
R383	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R384	1-218-332-11	RES-CHIP	130K	5%	1/16W
R386	1-216-846-11	METAL CHIP	120K	5%	1/16W
R387	1-216-813-11	METAL CHIP	220	5%	1/16W
R388	1-216-837-11	METAL CHIP	22K	5%	1/16W
R389	1-216-834-11	METAL CHIP	12K	5%	1/16W
R390	1-216-850-11	METAL CHIP	270K	5%	1/16W
R391	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R392	1-216-834-11	METAL CHIP	12K	5%	1/16W
R393	1-216-837-11	METAL CHIP	22K	5%	1/16W
R394	1-216-813-11	METAL CHIP	220	5%	1/16W
R396	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R397	1-216-821-11	METAL CHIP	1K	5%	1/16W
R398	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R399	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R500	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R501	1-216-837-11	METAL CHIP	22K	5%	1/16W
R502	1-216-833-11	METAL CHIP	10K	5%	1/16W
R503	1-216-833-11	METAL CHIP	10K	5%	1/16W
R504	1-216-833-11	METAL CHIP	10K	5%	1/16W
R507	1-216-833-11	METAL CHIP	10K	5%	1/16W
R508	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R509	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R510	1-216-845-11	METAL CHIP	100K	5%	1/16W
R511	1-216-851-11	METAL CHIP	330K	5%	1/16W
R512	1-216-809-11	METAL CHIP	100	5%	1/16W
R513	1-216-864-11	SHORT	0		
R514	1-216-809-11	METAL CHIP	100	5%	1/16W
R515	1-216-833-11	METAL CHIP	10K	5%	1/16W
R516	1-216-833-11	METAL CHIP	10K	5%	1/16W
R517	1-216-833-11	METAL CHIP	10K	5%	1/16W
R518	1-216-833-11	METAL CHIP	10K	5%	1/16W
R519	1-216-809-11	METAL CHIP	100	5%	1/16W
R520	1-216-833-11	METAL CHIP	10K	5%	1/16W
R522	1-216-864-11	SHORT	0		
R523	1-216-864-11	SHORT	0 (DX50: SP,KR,AUS)		
R523	1-216-829-11	METAL CHIP	4.7K	5%	1/16
			(EXCEPT DX50: SP,KR,AUS)		
R529	1-216-809-11	METAL CHIP	100	5%	1/16W
R530	1-216-809-11	METAL CHIP	100	5%	1/16W
R534	1-216-817-11	METAL CHIP	470	5%	1/16W
R535	1-216-817-11	METAL CHIP	470	5%	1/16W
R537	1-216-817-11	METAL CHIP	470	5%	1/16W
R540	1-216-809-11	METAL CHIP	100	5%	1/16W
R541	1-216-841-11	METAL CHIP	47K	5%	1/16W
R542	1-216-809-11	METAL CHIP	100	5%	1/16W
R543	1-216-809-11	METAL CHIP	100	5%	1/16W
R544	1-216-809-11	METAL CHIP	100	5%	1/16W
R545	1-216-809-11	METAL CHIP	100	5%	1/16W
R546	1-216-809-11	METAL CHIP	100	5%	1/16W
R547	1-216-809-11	METAL CHIP	100	5%	1/16W
R548	1-216-809-11	METAL CHIP	100	5%	1/16W
R549	1-216-809-11	METAL CHIP	100	5%	1/16W
R553	1-216-833-11	METAL CHIP	10K	5%	1/16W
R556	1-216-809-11	METAL CHIP	100	5%	1/16W
R557	1-216-809-11	METAL CHIP	100	5%	1/16W
R570	1-216-809-11	METAL CHIP	100	5%	1/16W
R573	1-216-833-11	METAL CHIP	10K	5%	1/16W
R574	1-216-833-11	METAL CHIP	10K	5%	1/16W
R575	1-216-833-11	METAL CHIP	10K	5%	1/16W
R576	1-216-841-11	METAL CHIP	47K	5%	1/16W
R577	1-216-841-11	METAL CHIP	47K	5%	1/16W
R578	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R579	1-216-817-11	METAL CHIP	470	5%	1/16W
R582	1-216-833-11	METAL CHIP	10K	5%	1/16W
R583	1-216-809-11	METAL CHIP	100	5%	1/16W
R584	1-216-809-11	METAL CHIP	100	5%	1/16W
R585	1-216-833-11	METAL CHIP	10K	5%	1/16W
R588	1-216-809-11	METAL CHIP	100	5%	1/16W
R589	1-216-809-11	METAL CHIP	100	5%	1/16W
R590	1-216-809-11	METAL CHIP	100	5%	1/16W
R591	1-216-809-11	METAL CHIP	100	5%	1/16W
R593	1-216-821-11	METAL CHIP	1K	5%	1/16W
					(DX50: E,MX,AR,E51)
R593	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
					(RG80)
R801	1-260-304-71	CARBON	10	5%	1/2W
					(DX50: KR)
R802	1-260-304-71	CARBON	10	5%	1/2W
					(DX50: KR)
R804	1-216-841-11	METAL CHIP	47K	5%	1/16W
					(DX50: KR)
R821	1-216-841-11	METAL CHIP	47K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R822	1-216-842-11	METAL CHIP	56K	5%	1/16W
R823	1-216-833-11	METAL CHIP	10K	5%	1/16W
R824	1-216-841-11	METAL CHIP	47K	5%	1/16W
R825	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R826	1-216-839-11	METAL CHIP	33K	5%	1/16W
R827	1-216-837-11	METAL CHIP	22K	5%	1/16W
R829	1-216-837-11	METAL CHIP	22K	5%	1/16W
R830	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R831	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R841	1-216-837-11	METAL CHIP	22K	5%	1/16W
R842	1-216-837-11	METAL CHIP	22K	5%	1/16W
R843	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (E51)
R843	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (EXCEPT DX50: E51)
R844	1-216-845-11	METAL CHIP	100K	5%	1/16W
R845	1-216-857-11	METAL CHIP	1M	5%	1/16W
R851	1-260-304-71	CARBON	10	5%	1/2W (DX50: KR)
R852	1-260-304-71	CARBON	10	5%	1/2W (DX50: KR)
R854	1-216-841-11	METAL CHIP	47K	5%	1/16W
R861	1-216-821-11	METAL CHIP	1K	5%	1/16W
R862	1-216-833-11	METAL CHIP	10K	5%	1/16W
R863	1-216-841-11	METAL CHIP	47K	5%	1/16W
R864	1-216-821-11	METAL CHIP	1K	5%	1/16W
R865	1-216-821-11	METAL CHIP	1K	5%	1/16W
R866	1-216-806-11	RES-CHIP	56	5%	1/16W
R868	1-215-891-11	METAL OXIDE	680	5%	2W
R869	1-215-891-11	METAL OXIDE	680	5%	2W
R891	1-216-833-11	METAL CHIP	10K	5%	1/16W
R892	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R893	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R895	1-216-864-11	SHORT	0		
⚠R901	1-249-405-11	CARBON	100	5%	1/4W F
R911	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R912	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R914	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R966	1-216-806-11	RES-CHIP	56	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB41	1-234-575-11	ENCAPSULATED COMPONENT			
		< VARIABLE RESISTOR >			
RV11	1-241-765-11	RES, ADJ, CARBON 22K			
RV301	1-241-764-11	RES, ADJ, CARBON 10K			
RV302	1-241-762-11	RES, ADJ, CARBON 2.2K			
RV303	1-241-762-11	RES, ADJ, CARBON 2.2K			
RV304	1-241-768-11	RES, ADJ, CARBON 220K			
RV351	1-241-764-11	RES, ADJ, CARBON 10K			
RV354	1-241-768-11	RES, ADJ, CARBON 220K			
		< RELAY >			
RY801	1-755-372-11	RELAY			
		< TRANSFORMER >			
T11	1-435-792-11	TRANSFORMER, DISCRIMINATOR			
T301	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			

Ref. No.	Part No.	Description			Remarks
		< TERMINAL >			
TM1	1-694-555-21	TERMINAL BOARD (4P)(ANTENNA)			(EXCEPT DX50: KR)
TM1	1-694-556-12	TERMINAL BOARD (ANT.PAL)(ANTENNA)			(DX50: KR)
TM801	1-694-635-11	TERMINAL BOARD (4P)(SPEAKER)			
		< VIBRATOR >			
X51	1-760-549-31	VIBRATOR, CRYSTAL 4.5MHz			
X501	1-567-098-41	VIBRATOR, CRYSTAL 32.768kHz			
X502	1-781-107-21	VIBRATOR, SERAMIC 16MHz			
**********					
	1-680-265-11	MAIN TRANS BOARD **********			
	1-533-217-31	HOLDER, FUSE			
		< CAPACITOR >			
C941	1-128-553-11	ELECT	220uF	20.00% 63V	
C977	1-164-159-11	CERAMIC	0.1uF	50V	
		< CONNECTOR >			
* CN977	1-564-526-11	PLUG, CONNECTOR 11P			
		< DIODE >			
D977	8-719-024-99	DIODE 11ES2-NTA2B			
		< FUSE >			
⚠F971	1-533-473-11	FUSE, GLASS TUBE (DIA.5) (T6.3AL/250V)			(DX50: E,SP,AR,E51)
⚠F974	1-533-454-11	FUSE, GLASS TUBE (DIA.5) (6.3A/125V) (RG80)			
⚠F974	1-533-473-11	FUSE, GLASS TUBE (DIA.5) (T6.3AL/250V)			(EXCEPT RG80)
⚠F975	1-533-454-11	FUSE, GLASS TUBE (DIA.5) (6.3A/125V) (RG80)			
⚠F975	1-533-473-11	FUSE, GLASS TUBE (DIA.5) (T6.3AL/250V)			(EXCEPT RG80)
		< RESISTOR >			
⚠R941	1-219-120-11	FUSIBLE	0.15	5%	1/4W
⚠R944	1-249-389-11	CARBON	4.7	5%	1/4W F
⚠R951	1-219-120-11	FUSIBLE	0.15	5%	1/4W
⚠R952	1-219-120-11	FUSIBLE	0.15	5%	1/4W
⚠R953	1-219-120-11	FUSIBLE	0.15	5%	1/4W
⚠R954	1-202-725-00	SOLID	3.3M	10%	1/2W (RG80)
**********					
	1-675-910-14	MOTOR BOARD **********			
		< CAPACITOR >			
C721	1-162-306-11	CERAMIC	0.01uF	30.00% 16V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MOTOR **PAD SWITCH** **PANEL**

Ref. No.	Part No.	Description				Remarks
		< CONNECTOR >				
CN721	1-770-516-31	CONNECTOR, FFC 8P				
CN722	1-785-330-11	PIN, CONNECTOR (LIGHT ANGLE)4P				
		< SWITCH >				
S701	1-771-822-11	SWITCH, LEVER (SLIDE)				
**********						
	A-4475-778-A	PAD SWITCH BOARD, COMPLETE (DX50)				
		**********				
	A-4476-977-A	PAD SWITCH BOARD, COMPLETE (RG80)				
		**********				
		< CAPACITOR >				
C751	1-162-306-11	CERAMIC	0.01uF	30.00%	16V	
C752	1-162-306-11	CERAMIC	0.01uF	30.00%	16V	
		< DIODE >				
D751	8-719-063-93	DIODE SLR325VC-N-T32 (REC)				
D752	8-719-063-93	DIODE SLR325VC-N-T32 (ENTER)				
		< TRANSISTOR >				
Q751	8-729-900-80	TRANSISTOR	BA1A4M-TP			
Q752	8-729-900-80	TRANSISTOR	BA1A4M-TP			
		< RESISTOR >				
R750	1-249-410-11	CARBON	270	5%	1/4W	F
R751	1-249-411-11	CARBON	330	5%	1/4W	
R752	1-249-411-11	CARBON	330	5%	1/4W	
R754	1-249-410-11	CARBON	270	5%	1/4W	F
R755	1-249-413-11	CARBON	470	5%	1/4W	F
R756	1-249-414-11	CARBON	560	5%	1/4W	F
R757	1-249-416-11	CARBON	820	5%	1/4W	F
R758	1-249-417-11	CARBON	1K	5%	1/4W	F
R759	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R760	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R761	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R762	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R763	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R764	1-249-426-11	CARBON	5.6K	5%	1/4W	
R765	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R766	1-249-431-11	CARBON	15K	5%	1/4W	
R768	1-249-410-11	CARBON	270	5%	1/4W	F
R769	1-249-413-11	CARBON	470	5%	1/4W	F
R770	1-249-414-11	CARBON	560	5%	1/4W	F
R771	1-249-416-11	CARBON	820	5%	1/4W	F
R772	1-249-417-11	CARBON	1K	5%	1/4W	F
R773	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R774	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R775	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R776	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R777	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R778	1-249-426-11	CARBON	5.6K	5%	1/4W	
R779	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R780	1-249-431-11	CARBON	15K	5%	1/4W	
R790	1-249-434-11	CARBON	27K	5%	1/4W	

Ref. No.	Part No.	Description				Remarks
		< SWITCH >				
S751	1-476-504-11	ENCODER-ROTARY (VOLUME)				
S752	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)				
S753	1-762-875-21	SWITCH, KEYBOARD (▶)				
S754	1-762-875-21	SWITCH, KEYBOARD (◀)				
S755	1-762-875-21	SWITCH, KEYBOARD (SPECTRUM)				
S756	1-762-875-21	SWITCH, KEYBOARD (EFECT ON/OFF)				
S757	1-762-875-21	SWITCH, KEYBOARD (GAME EQ)				
S758	1-762-875-21	SWITCH, KEYBOARD (KARAOKE PON)(DX50)				
S760	1-762-875-21	SWITCH, KEYBOARD (◀◀ –)				
S761	1-762-875-21	SWITCH, KEYBOARD (I◀◀)				
S762	1-762-875-21	SWITCH, KEYBOARD (■)				
S763	1-762-875-21	SWITCH, KEYBOARD (HI-DUB)				
S764	1-762-875-21	SWITCH, KEYBOARD (REC)				
S765	1-762-875-21	SWITCH, KEYBOARD (▶▶ +)				
S768	1-762-875-21	SWITCH, KEYBOARD (PLAY MODE)				
S769	1-762-875-21	SWITCH, KEYBOARD (REPEAT)				
S770	1-762-875-21	SWITCH, KEYBOARD (EDIT)				
S771	1-762-875-21	SWITCH, KEYBOARD (MUSIC EQ)				
S772	1-762-875-21	SWITCH, KEYBOARD (MOVIE EQ)				
S773	1-762-875-21	SWITCH, KEYBOARD (▲)				
S774	1-762-875-21	SWITCH, KEYBOARD (ENTER)				
S775	1-762-875-21	SWITCH, KEYBOARD (▼)				
S776	1-762-875-21	SWITCH, KEYBOARD (P FILE)				
S777	1-762-875-21	SWITCH, KEYBOARD (GROOVE)				
S778	1-762-875-21	SWITCH, KEYBOARD (SURROUND)				
S779	1-762-875-21	SWITCH, KEYBOARD (◁▷)				
S780	1-762-875-21	SWITCH, KEYBOARD (❚❚)				
S781	1-762-875-21	SWITCH, KEYBOARD (▶▶I)				
**********						
	A-4475-773-A	PANEL BOARD, COMPLETE (DX50)				
		**********				
	A-4476-975-A	PANEL BOARD, COMPLETE (RG80)				
		**********				
	4-231-581-01	HOLDER FL				
		< CAPACITOR >				
C603	1-162-286-31	CERAMIC	220PF	10.00%	50V	
C604	1-124-257-00	ELECT	2.2uF	20%	50V	
C605	1-162-286-31	CERAMIC	220PF	10.00%	50V	
C606	1-124-257-00	ELECT	2.2uF	20%	50V	
C607	1-126-157-11	ELECT	10uF	20%	16V	(DX50)
C608	1-126-157-11	ELECT	10uF	20%	16V	
C609	1-162-303-11	CERAMIC	0.0033uF	30.00%	16V	
C610	1-126-157-11	ELECT	10uF	20%	16V	
C611	1-126-157-11	ELECT	10uF	20%	16V	
C612	1-162-306-11	CERAMIC	0.01uF	30.00%	16V	
C613	1-124-261-00	ELECT	10uF	20%	50V	
C614	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C615	1-104-664-11	ELECT	47uF	20.00%	10V	
C616	1-126-934-11	ELECT	220uF	20.00%	16V	
C617	1-124-589-11	ELECT	47uF	20%	16V	
C618	1-162-306-11	CERAMIC	0.01uF	30.00%	16V	
C619	1-124-589-11	ELECT	47uF	20%	16V	
C620	1-162-306-11	CERAMIC	0.01uF	30.00%	16V	
C622	1-126-163-11	ELECT	4.7uF	20%	50V	
C623	1-164-159-21	CERAMIC	0.1uF		50V	

Ref. No.	Part No.	Description			Remarks
C624	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C625	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C626	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C627	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C628	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C629	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C630	1-162-294-31	CERAMIC	0.001uF	10%	50V
C631	1-162-294-31	CERAMIC	0.001uF	10%	50V
C651	1-164-159-11	CERAMIC	0.1uF		50V
C652	1-126-960-11	ELECT	1uF	20.00%	50V
C653	1-126-960-11	ELECT	1uF	20.00%	50V
C717	1-124-584-00	ELECT	100uF	20%	10V (DX50)
C718	1-124-584-00	ELECT	100uF	20%	10V (DX50)
C719	1-124-257-00	ELECT	2.2uF	20%	50V (DX50)
C736	1-124-261-00	ELECT	10uF	20%	50V (DX50)
C737	1-124-261-00	ELECT	10uF	20%	50V (DX50)
C738	1-124-257-00	ELECT	2.2uF	20%	50V (DX50)
C739	1-162-215-31	CERAMIC	47PF	5%	50V (DX50)
C740	1-162-282-31	CERAMIC	100PF	10%	50V (DX50)
C741	1-124-463-00	ELECT	0.1uF	20%	50V (DX50)
C742	1-162-215-31	CERAMIC	47PF	5%	50V (DX50)
C743	1-162-290-31	CERAMIC	470PF	10%	50V (DX50)
C744	1-162-294-31	CERAMIC	0.001uF	10%	50V (DX50)
C747	1-126-961-11	ELECT	2.2uF	20.00%	50V (DX50)
C748	1-162-306-11	CERAMIC	0.01uF	30.00%	16V (DX50)
C749	1-164-159-11	CERAMIC	0.1uF		50V (DX50)
		< CONNECTOR >			
CN601	1-793-767-11	CONNECTOR, BOARD TO BOARD 30P			
		< DIODE >			
D608	8-719-057-97	DIODE SEL5923A-TP15 (GAME)			
D609	8-719-057-97	DIODE SEL5923A-TP15 (TUNER/BAND)			
D610	8-719-109-85	DIODE MTZJ-T-77-5.1B			
D611	8-719-991-33	DIODE 1SS133T-77			
D612	8-719-057-97	DIODE SEL5923A-TP15 (TUNER/BAND)			
D613	8-719-057-97	DIODE SEL5923A-TP15 (CD)			
D614	8-719-057-97	DIODE SEL5923A-TP15 (CD)			
D615	8-719-057-97	DIODE SEL5923A-TP15 (TAPE A/B)			
D616	8-719-057-97	DIODE SEL5923A-TP15 (TAPE A/B)			
D617	8-719-057-97	DIODE SEL5923A-TP15 (MD(VIDEO))			
D618	8-719-057-97	DIODE SEL5923A-TP15 (MD(VIDEO))			

Ref. No.	Part No.	Description			Remarks
		< FILTER >			
FL601	1-518-739-11	INDICATOR TUBE FLUORESCENT			
		< IC >			
IC601	8-759-828-89	IC MB90M407PF-G-103-BND			
IC602	8-759-570-21	IC BA3830F-E2			
IC603	8-759-827-70	IC NJL64H400A-1 (R)			
IC616	8-719-647-10	IC 2933			
IC722	8-759-167-88	IC NJM4565D (DX50)			
		< JACK >			
J601	1-793-724-11	JACK BLOCK, PIN 3P (INPUT(GAME)			
J631	1-785-569-11	JACK (SMALL TYPE) (PHONES)			
J722	1-785-569-11	JACK (SMALL TYPE) (MIC) (DX50)			
		< TRANSISTOR >			
Q601	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q602	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q603	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q604	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q605	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q721	8-729-119-79	TRANSISTOR	2SC2785TP-FEK (DX50)		
		< RESISTOR >			
R602	1-249-417-11	CARBON	1K	5%	1/4W F
R603	1-249-417-11	CARBON	1K	5%	1/4W F
R604	1-249-441-11	CARBON	100K	5%	1/4W
R605	1-249-441-11	CARBON	100K	5%	1/4W
R606	1-247-889-00	CARBON	270K	5%	1/4W
R607	1-247-889-00	CARBON	270K	5%	1/4W
R608	1-249-421-11	CARBON	2.2K	5%	1/4W F
R609	1-249-440-11	CARBON	82K	5%	1/4W (DX50)
R610	1-249-441-11	CARBON	100K	5%	1/4W (DX50)
R611	1-249-437-11	CARBON	47K	5%	1/4W
R612	1-249-435-11	CARBON	33K	5%	1/4W
R613	1-249-429-11	CARBON	10K	5%	1/4W
R614	1-249-435-11	CARBON	33K	5%	1/4W
R615	1-249-433-11	CARBON	22K	5%	1/4W
R616	1-249-429-11	CARBON	10K	5%	1/4W (DX50)
R617	1-249-439-11	CARBON	68K	5%	1/4W
R618	1-249-429-11	CARBON	10K	5%	1/4W
R625	1-249-401-11	CARBON	47	5%	1/4W F
R626	1-249-404-00	CARBON	82	5%	1/4W F
R627	1-249-404-00	CARBON	82	5%	1/4W F
R628	1-249-404-00	CARBON	82	5%	1/4W F
R629	1-249-404-00	CARBON	82	5%	1/4W F
R630	1-249-409-11	CARBON	220	5%	1/4W F
R631	1-249-418-11	CARBON	1.2K	5%	1/4W F
R632	1-249-417-11	CARBON	1K	5%	1/4W F
R633	1-249-416-11	CARBON	820	5%	1/4W F
R634	1-249-414-11	CARBON	560	5%	1/4W F
R635	1-249-413-11	CARBON	470	5%	1/4W F
R636	1-249-410-11	CARBON	270	5%	1/4W F
R645	1-249-429-11	CARBON	10K	5%	1/4W

PANEL **POWER**

Ref. No.	Part No.	Description			Remarks
R646	1-247-807-31	CARBON	100	5%	1/4W
R647	1-247-807-31	CARBON	100	5%	1/4W
R650	1-249-429-11	CARBON	10K	5%	1/4W
R651	1-247-807-31	CARBON	100	5%	1/4W
R652	1-249-429-11	CARBON	10K	5%	1/4W
R653	1-249-429-11	CARBON	10K	5%	1/4W
R654	1-249-417-11	CARBON	1K	5%	1/4W F
R655	1-247-807-31	CARBON	100	5%	1/4W
R656	1-247-807-31	CARBON	100	5%	1/4W
R657	1-249-429-11	CARBON	10K	5%	1/4W
R658	1-249-429-11	CARBON	10K	5%	1/4W
R659	1-249-429-11	CARBON	10K	5%	1/4W
R660	1-247-903-00	CARBON	1M	5%	1/4W
R661	1-249-429-11	CARBON	10K	5%	1/4W
R662	1-249-429-11	CARBON	10K	5%	1/4W
R663	1-249-429-11	CARBON	10K	5%	1/4W
R680	1-249-411-11	CARBON	330	5%	1/4W
R681	1-247-843-11	CARBON	3.3K	5%	1/4W
R682	1-249-434-11	CARBON	27K	5%	1/4W
R721	1-249-429-11	CARBON	10K	5%	1/4W (DX50)
R722	1-249-430-11	CARBON	12K	5%	1/4W (DX50)
R734	1-247-807-31	CARBON	100	5%	1/4W (DX50)
R735	1-247-885-00	CARBON	180K	5%	1/4W (DX50)
R736	1-249-429-11	CARBON	10K	5%	1/4W (DX50)
R737	1-249-433-11	CARBON	22K	5%	1/4W (DX50)
R738	1-249-417-11	CARBON	1K	5%	1/4W F (DX50)
R739	1-249-441-11	CARBON	100K	5%	1/4W (DX50)
R742	1-249-417-11	CARBON	1K	5%	1/4W F (DX50)
R743	1-249-429-11	CARBON	10K	5%	1/4W (DX50)
R744	1-249-441-11	CARBON	100K	5%	1/4W (DX50)
R745	1-247-807-31	CARBON	100	5%	1/4W (DX50)
R746	1-249-417-11	CARBON	1K	5%	1/4W F (DX50)
R748	1-249-441-11	CARBON	100K	5%	1/4W
R811	1-249-417-11	CARBON	1K	5%	1/4W F
R812	1-249-417-11	CARBON	1K	5%	1/4W F
		< VARIABLE RESISTOR >			
RV722	1-227-360-11	VARIABLE RESISTOR (MIC LEVEL)(DX50)			
		< SWITCH >			
S601	1-762-875-21	SWITCH, KEYBOARD (MD(VIDEO))			
S602	1-762-875-21	SWITCH, KEYBOARD (TAPE A/B)			
S603	1-762-875-21	SWITCH, KEYBOARD (CD)			
S604	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)			
S605	1-762-875-21	SWITCH, KEYBOARD (GAME)			

Ref. No.	Part No.	Description			Remarks
		< VIBRATOR >			
X601	1-577-358-21	VIBRATOR, CERAMIC 4MHz			
**********					
	A-4475-781-A	POWER BOARD, COMPLETE (DX50:SP,KR,AUS)			
		**********			
	A-4476-324-A	POWER BOARD, COMPLETE (DX50:E,MX,AR)			
		**********			
	A-4476-982-A	POWER BOARD, COMPLETE (RG80)			
		**********			
	7-685-646-79	SCREW +BVTP	3X8	TYPE2 N-S	
		< CAPACITOR >			
C501	1-126-963-11	ELECT	4.7uF	20.00% 50V	
C502	1-162-286-21	CERAMIC	220PF	10% 50V	
C503	1-162-282-31	CERAMIC	100PF	10.00% 50V	
C504	1-104-665-11	ELECT	100uF	20.00% 10V	
C505	1-162-199-31	CERAMIC	10PF	5% 50V	
C507	1-136-495-11	FILM	0.068uF	5.00% 50V	
C508	1-136-495-11	FILM	0.068uF	5.00% 50V	
C509	1-128-560-11	ELECT	22uF	20.00% 100V	
C511	1-162-306-11	CERAMIC	0.01uF	30.00% 16V	
C512	1-162-306-11	CERAMIC	0.01uF	30.00% 16V	
C514	1-164-159-11	CERAMIC	0.1uF	50V	
C544	1-137-749-11	MYLAR	0.1uF	100V	
C545	1-137-749-11	MYLAR	0.1uF	100V	
C546	1-137-847-11	ELECT	2200uF	20% 71V (DX50: SP,KR,AUS/RG80)	
C546	1-137-841-11	ELECT	2200uF	20% 71V (DX50: E,MX,AR)	
C551	1-126-963-11	ELECT	4.7uF	20.00% 50V	
C552	1-162-286-21	CERAMIC	220PF	10% 50V	
C553	1-162-282-31	CERAMIC	100PF	10.00% 50V	
C554	1-104-665-11	ELECT	100uF	20.00% 10V	
C555	1-162-199-31	CERAMIC	10PF	5% 50V	
C557	1-136-495-11	FILM	0.068uF	5.00% 50V	
C558	1-136-495-11	FILM	0.068uF	5.00% 50V	
C559	1-128-560-11	ELECT	22uF	20.00% 100V	
C581	1-104-664-11	ELECT	47uF	20.00% 16V	
C596	1-137-847-11	ELECT	2200uF	20% 71V (DX50: SP,KR,AUS/RG80)	
C596	1-137-841-11	ELECT	2200uF	20% 71V (DX50: E,MX,AR)	
C942	1-126-964-11	ELECT	10uF	20.00% 50V	
C943	1-126-968-11	ELECT	100uF	20.00% 50V	
		< CONNECTOR >			
CN502	1-778-981-21	CONNECTOR, BOARD TO BOARD 13P			
CN503	1-778-981-21	CONNECTOR, BOARD TO BOARD 13P			
CN504	1-506-468-11	PIN, CONNECTOR 3P			
CN505	1-568-951-11	PIN, CONNECTOR 2P			
		< DIODE >			
D501	8-719-911-19	DIODE 1SS133T-72			
D502	8-719-911-19	DIODE 1SS133T-72			
D543	8-719-302-38	DIODE RBV-602-01			
D551	8-719-911-19	DIODE 1SS133T-72			
D581	8-719-911-19	DIODE 1SS133T-72			
D941	8-719-150-92	DIODE MTZJ-T-72-33D			

Ref. No.	Part No.	Description				Remarks
		< EARTH >				
* EP501	1-537-738-21	TERMINAL, EARTH				
* EP502	1-537-738-21	TERMINAL, EARTH				
		< IC >				
IC501	8-749-017-16	IC STK442-130				
		< TRANSISTOR >				
Q501	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA			
Q503	8-729-140-82	TRANSISTOR	2SA988TP-PAFAEA			
Q504	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA			
Q505	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA			
Q506	8-729-119-79	TRANSISTOR	2SC2785TP-FEK			
Q551	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA			
Q581	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA			
Q831	8-729-119-79	TRANSISTOR	2SC2785TP-FEK			
Q941	8-729-141-83	TRANSISTOR	2SB1375			
		< RESISTOR >				
R501	1-249-417-11	CARBON	1K	5%	1/4W	F
R502	1-249-438-11	CARBON	56K	5%	1/4W	
R503	1-249-412-11	CARBON	390	5%	1/4W	F
			(EXCEPT DX50: SP,KR,AUS)			
R503	1-249-414-11	CARBON	560	5%	1/4W	F
			(DX50: SP,KR,AUS)			
R504	1-249-438-11	CARBON	56K	5%	1/4W	
R505	1-249-417-11	CARBON	1K	5%	1/4W	F
R506	1-249-431-11	CARBON	15K	5%	1/4W	
R507	1-249-441-11	CARBON	100K	5%	1/4W	
⚠ R508	1-217-156-00	METAL	0.22	20%	5W	
R509	1-260-076-11	CARBON	10	5%	1/2W	
⚠ R510	1-217-156-00	METAL	0.22	20%	5W	
⚠ R511	1-212-881-11	FUSIBLE	100	5%	1/4W	
⚠ R512	1-202-972-61	FUSIBLE	1	5%	1/4W	
R513	1-249-435-11	CARBON	33K	5%	1/4W	
R514	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R515	1-249-433-11	CARBON	22K	5%	1/4W	
R516	1-249-429-11	CARBON	10K	5%	1/4W	
R517	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R518	1-249-435-11	CARBON	33K	5%	1/4W	
R519	1-249-439-11	CARBON	68K	5%	1/4W	
R521	1-249-441-11	CARBON	100K	5%	1/4W	
R522	1-249-441-11	CARBON	100K	5%	1/4W	
R523	1-247-883-00	CARBON	150K	5%	1/4W	
R531	1-249-409-11	CARBON	220	5%	1/4W	F
R532	1-247-897-11	CARBON	560K	5%	1/4W	
R533	1-249-437-11	CARBON	47K	5%	1/4W	
R542	1-249-441-11	CARBON	100K	5%	1/4W	
R551	1-249-417-11	CARBON	1K	5%	1/4W	F
R552	1-249-438-11	CARBON	56K	5%	1/4W	
R553	1-249-412-11	CARBON	390	5%	1/4W	F
			(EXCEPT DX50: SP,KR,AUS)			
R503	1-249-414-11	CARBON	560	5%	1/4W	
			(DX50: SP,KR,AUS)			
R554	1-249-438-11	CARBON	56K	5%	1/4W	
R555	1-249-417-11	CARBON	1K	5%	1/4W	F
R556	1-249-431-11	CARBON	15K	5%	1/4W	
R557	1-249-441-11	CARBON	100K	5%	1/4W	

Ref. No.	Part No.	Description				Remarks
⚠ R558	1-217-156-00	METAL	0.22	20%	5W	
R559	1-260-076-11	CARBON	10	5%	1/2W	
⚠ R560	1-217-156-00	METAL	0.22	20%	5W	
⚠ R561	1-212-881-11	FUSIBLE	100	5%	1/4W	
R581	1-249-435-11	CARBON	33K	5%	1/4W	
R582	1-249-435-11	CARBON	33K	5%	1/4W	
R592	1-249-441-11	CARBON	100K	5%	1/4W	
R942	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R943	1-249-428-11	CARBON	8.2K	5%	1/4W	F
**********						
	1-681-143-11	SENSOR BOARD				
		**********				
		< THERMISTOR >				
TH701	1-807-796-11	THERMISTOR				
**********						
	A-4476-280-A	SUB TRANS BOARD, COMPLETE				
		(DX50: KR,MX,AUS)				
		**********				
	A-4475-786-A	SUB TRANS BOARD, COMPLETE (DX50: E,SP,AR)				
		**********				
	A-4476-979-A	SUB TRANS BOARD, COMPLETE (RG80)				
		**********				
		< CAPACITOR >				
⚠ C971	1-113-925-11	CERAMIC	0.01uF	20.00%	250V	
C973	1-126-933-11	ELECT	100uF	20.00%	16V	
C975	1-126-768-11	ELECT	2200uF	20.00%	16V	
C976	1-164-159-11	CERAMIC	0.1uF		50V	
C978	1-164-159-11	CERAMIC	0.1uF		50V	
		< CONNECTOR >				
* CN974	1-568-226-11	PIN, CONNECTOR 2P				
		< DIODE >				
D971	8-719-911-19	DIODE 1SS133T-72				
D972	8-719-024-99	DIODE 11ES2-NTA2B				
D973	8-719-024-99	DIODE 11ES2-NTA2B				
D974	8-719-024-99	DIODE 11ES2-NTA2B				
D975	8-719-024-99	DIODE 11ES2-NTA2B				
		< IC >				
IC971	8-759-158-62	IC TA78057S				
		< TRANSISTOR >				
Q971	8-729-119-79	TRANSISTOR	2SC2785TP-FEK			
		< RESISTOR >				
R974	1-249-429-11	CARBON	10K	5%	1/4W	
R975	1-249-429-11	CARBON	10K	5%	1/4W	
		< RELAY >				
⚠ RY971	1-755-276-11	RELAY, POWER				

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SUB TRANS | SWITCH

Ref. No.	Part No.	Description	Remarks
		< SWITCH >	
⚠S901	1-786-055-11	SELECTOR, VOLTAGE (DX50: E,SP,AR)	
		< TRANSFORMER >	
⚠T972	1-435-867-11	POWER TRANSFORMER (DX50)	
⚠T972	1-435-864-11	POWER TRANSFORMER (RG80)	
**********			
	1-680-892-11	SWITCH BOARD	
		**********	
		< CONNECTOR >	
CN607	1-785-328-11	PIN, CONNECTOR (LIGHT ANGRE)2P	
		< JACK >	
J401	1-774-227-11	JACK, PIN 1P (VIDEO OUT)	
		< JUMPER RESISTOR >	
JR781	1-216-864-11	SHORT 0	
**********			
		MISCELLANEOUS	
		**********	
101	1-773-045-11	WIRE (FLAT TYPE) (17 CORE)	
104	1-757-683-11	CABLE, FLAT (21 CORE)	
⚠108	1-696-847-11	CORD, POWER (DX50: AUS)	
⚠108	1-777-071-51	CORD, POWER (DX50: E51,SP)	
⚠108	1-783-941-12	CORD, POWER (DX50: AR)	
⚠108	1-791-901-11	CORD, POWER (DX50: E2,MX/RG80)	

Ref. No.	Part No.	Description	Remarks
⚠109	1-569-008-21	ADAPTOR, CONVERSION (DX50: E51,SP)	
259	1-791-983-11	WIRE (FLAT TYPE) (8 CORE)	
306	1-757-710-11	WIRE (FLAT TYPE) (16 CORE)	
⚠307	A-4735-188-A	BU-30 (60) ASSY	
HP901	A-2004-765-A	BASE (A) ASSY, HEAD	
HRPE901	A-2004-766-A	BASE (B) ASSY, HEAD	
M721	A-4672-826-A	MOTOR ASSY (TURN)	
M901	X-3378-246-1	MOTOR ASSY (CAPSTAN)	
M961	1-763-072-11	FAN, D.C.	
PM901	1-454-887-11	PLUNGER	
PM902	1-454-887-11	PLUNGER	
⚠T910	1-435-861-11	POWER TRANSFORMER (DX50)	
⚠T910	1-435-863-11	POWER TRANSFORMER (RG80)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-628-254-00	SCREW +PS 2.6X5	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-685-647-11	SCREW +BVTP 3X10	
#4	7-685-648-11	SCREW +BVTP 3X12	
#5	7-685-872-11	SCREW +BVTT 3X8	
#6	7-685-881-11	SCREW +BVTT 4X8	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MEMO

REVISION HISTORY

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Ver.	Date	Description of Revision
1.1	2001.12	Change of parts No. for Ref.No.158 and 159 Addition of Ref.No.217, 218, 219 in tape mechanism deck (SFD-01023)
1.0	2001.02	New

SS-DX50/DX80/RG80/VX555/ VX555J/VX888

SERVICE MANUAL

Ver.1.1 2001.10

Canadian Model
E Model
Australian Model
Turist Model

This set is the speaker system in MHC-DX50/DX70/ DX80/RG80/VX555/VX555J/VX777/VX888.

Photo : SS-DX80(L ch)

SPECIFICATION

Speaker system	3-way, 3-unit, bass-reflex type
Speaker units	
Super Woofer:	15 cm, cone type
Woofer:	15 cm, cone type
Tweeter:	5 cm, cone type
Nominal impedance	6 ohms
Dimensions (w/h/d)	Approx. 250 x 385.4 x 326 mm
Mass	Approx. 6.2 kg net per speaker

SPEAKER SYSTEM

9-873-808-12
2001J0200-1
© 2001. 10

Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

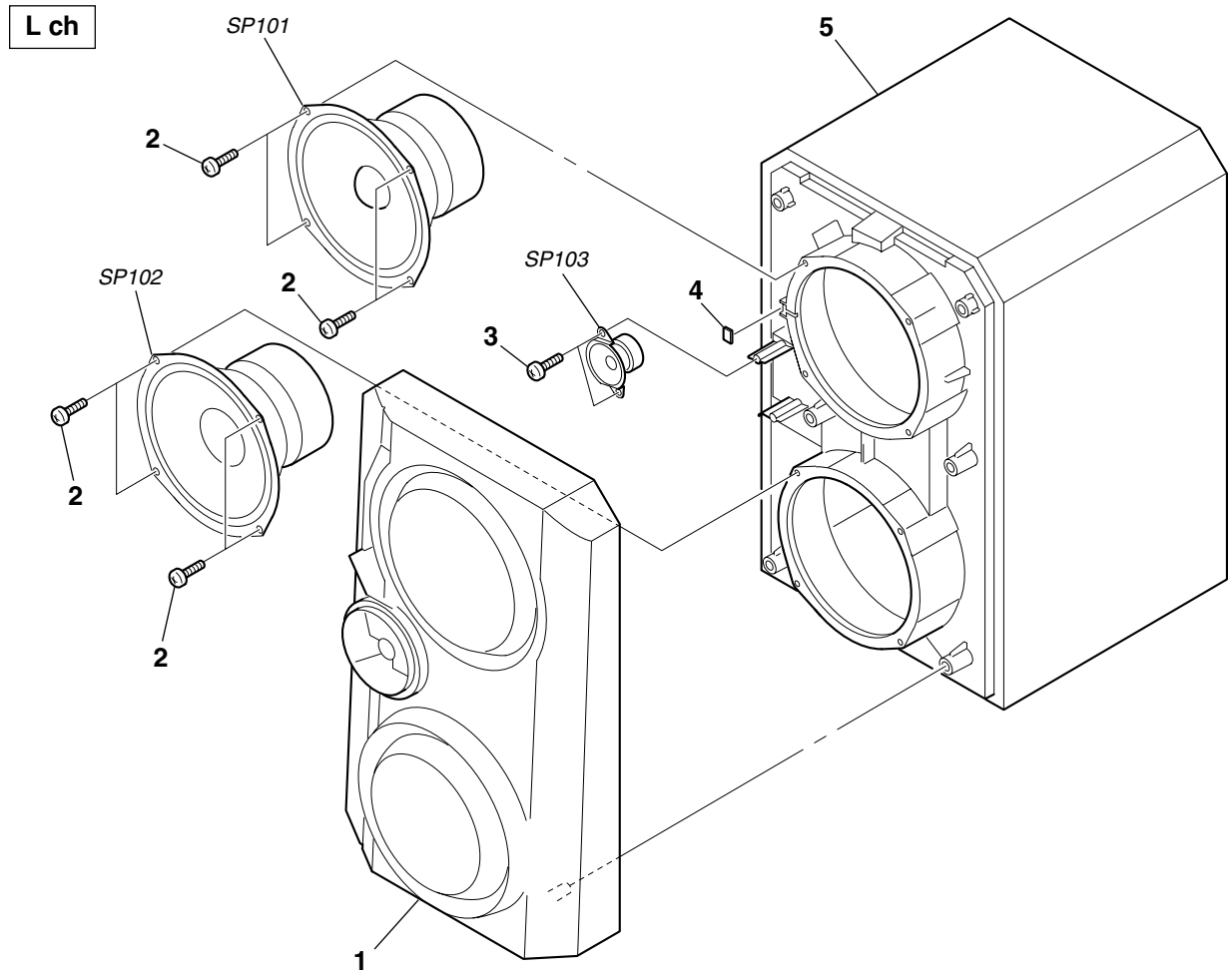
SONY®

EXPLODED VIEW AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  EA : Soudi Arabia model
  IA : Indonesia model
  TH : Thai model

- Color indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)… (RED)
  ↑ ↑
  Parts color Cabinet's color



Ref. No.	Part No.	Description	Remark
1	A-4412-711-A	FRONT PANEL (L) ASSY (DX50/DX80/VX555:E,EA,TH/VX555J/VX888:E,EA)	
1	A-4412-714-A	FRONT PANEL (R) ASSY (DX50/DX80/VX555:E,EA,TH/VX555J/VX888:E,EA)	
1	A-4412-921-A	FRONT PANEL (L) ASSY (RG80/VX888:IA)	
1	A-4412-924-A	FRONT PANEL (R) ASSY (RG80/VX888:IA)	
1	A-4735-682-A	PANEL (L) ASSY…(SILVER) (VX888:TH)	
1	A-4735-684-A	PANEL (R) ASSY…(SILVER) (VX888:TH)	
2	4-874-614-21	SCREW (4) (3.5X14), TAPPING	
3	4-986-971-01	SCREW (3.5)	
4	4-920-140-02	PACKING	
5	A-2004-901-A	SPK CABINET (L) ASSY (VX555J)	
5	A-2004-903-A	SPK CABINET (R) ASSY (VX555J)	
5	A-4412-712-A	SPK CABINET (L) ASSY (DX50/DX80/VX555:E,EA/VX888:E,EA)	
5	A-4412-715-A	SPK CABINET (R) ASSY (DX50/DX80/VX555:E,EA/VX888:E,EA)	
5	A-4412-917-A	SPK CABINET (L) ASSY (VX555:TH/VX888:TH)	
5	A-4412-919-A	SPK CABINET (R) ASSY (VX555:TH/VX888:TH)	

Ref. No.	Part No.	Description	Remark
5	A-4412-922-A	SPK CABINET (L) ASSY (RG80/VX888:IA)	
5	A-4412-925-A	SPK CABINET (R) ASSY (RG80/VX888:IA)	
SP101	1-529-910-11	LOUD SPEAKER (15CM) (VX555:E,EA/VX555J/VX888:E,EA)	
SP101	1-529-913-11	LOUD SPEAKER (15CM) (DX80)	
SP101	1-529-915-11	LOUD SPEAKER (15CM) (RG80)	
SP101	1-529-918-11	SPEAKER (15CM) (DX50)	
SP101	1-529-920-11	LOUD SPEAKER (15CM) (VX555:TH/VX888:IA,TH)	
SP102	1-529-911-21	LOUD SPEAKER (15CM) (VX555:E,EA/VX555J/VX888:E,EA)	
SP102	1-529-914-21	LOUD SPEAKER (15CM) (DX80)	
SP102	1-529-916-11	LOUD SPEAKER (15CM) (DX50,RG80)	
SP102	1-529-921-21	LOUD SPEAKER (15CM) (VX555:TH/VX888:IA,TH)	
SP103	1-529-907-11	LOUD SPEAKER (5CM) (VX555:E,EA/VX555J/VX888:E,EA)	
SP103	1-529-912-11	LOUD SPEAKER (5CM) (DX80)	
SP103	1-529-917-11	SPEAKER (5CM) (VX555:TH/VX888:IA,TH)	
SP103	1-529-949-11	LOUD SPEAKER (5CM) (DX50,RG80)	

MEMO

REVISION HISTORY

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Ver.	Date	Description of Revision
1.1	2001.10	Addition of Thai (silver) model. Correction of SP102 and SP103. (ENG-01004)
1.0	2001.02	New